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PRESIDENT'S ADDRESS.*

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Through all time men have suffered for opinion's sake. Those who failed to accept prevailing opinions were "has beens." Those who did not accept new dogmas for established facts were and are not progressive. Those who see in the works of the fathers demonstrated truths, are not up to date. Men with opinions not in harmony with the prevailing tendency are agitators and disturbers of that harmony which, fostered by a desire to be "in the swim," must be unruffled. In our profession—always lauded for its harmoniousness—there has arisen, within the last decade, a sentiment of oneness, of sweet charity, and a disinterested (let us hope) desire to embrace each other in the name of Esculapius. My distinguished predecessor, in his excellent address last spring, reading the signs of the times, painted in roseate colors the rising sun of the coming medical millennium. I hope he saw aright, for in a united profession alone can we develop that strength which will enable us to hold our place in the world as an organized force not to be overthrown. Before we complete this organization, let us first consider the character of the forces to be joined. It is a well-known fact that many of the most potent forces are generated by the union of elements in themselves and by themselves harmless; that in other cases elements in themselves active and powerful, joined with other powerful elements, become inert, the one destructive of the other. Since the complaint of Pluto to Jupiter, that Esculapius was causing a falling off in the registry of his kingdom, there has been more or less trouble in harmonizing medical thought. Until medical thought can be harmonized there can be only apparent, superficial society organization. As I read the history of medicine, I become more and more impressed with the idea that men and women now differ but little from those of earlier and later periods. Following the building of the first temple at Litamus to Esculapius quite a boom was started in the temple business to this popular deity. It spread into Asia, Africa and Italy. It is recorded that in the temple at Epidaurus the god was represented by the figure of an old man, seated on a throne, holding in one hand a scepter and resting the other on the head of an enormous serpent, while a dog as an emblem of vigilance reposed at his feet. Snakes and bow-wows are no new thing in medicine. To these temples the people gathered from all directions. They were people seeking the healing balm of the mysterious. The old family doctor was out of date. He had taken no post-graduate work. He had never written a book or been abroad; perhaps he had not resolved upon a certain number of laparotomies a year whether or no, so the people gathered at those ancient temples which find their modern prototype in our sanatoriums and all healing bath-houses. The record of results obtained is about as reliable as our present records—the recoveries are noted; those who went home improved were mentioned, while the record of those transported is incomplete. It is not my purpose to go into a history of our science and our art, further than to say that in the age of Pericles, when Hippocrates lived, was laid, so far as we know positively, the foundation on which all future development has been built. It was founded on recorded observations, the method of all accurate writers even to the present day, and only supplemented by the comparatively modern researches in pathology and biology. The theory of humors, like many modern and most of the ancient theories, was false and led to erroneous deductions. The clinic foundation was firm, and so remains. Through all the centuries, save that period in the Middle Ages from the fifth to the tenth centuries in Europe, schools of medicine have flourished and disappeared; through the period of dreams; through the mystic period to Hippocrates; through the Methodists, the Pneumatists, the Byzantines, the Arabians, the Romans—though this great people boasted that for 500 years they had no doctors of medicine—through the Humanists and the chemic medicine of Paracelsus, to the beginning of the seventeenth century, when Harvey's discovery in 1628 marked an epoch.

But even the great advances being made from the revival of learning did not check the ardor of the eccentric minds of those early times, and new schools sprung from false conceptions. Human nature does not change much and we may in sincerity ask if these old so-called medical geniuses were not playing on the credulity of their followers as in modern times. Throughout all time great minds have raised themselves above the level plain of ordinary humanity and, like mountain-peaks, have been the guiding points for the wanderer. Their intellectual summits were the first to see the light, and to reflect it to those who wished to see. Hippocrates, Galen, the great Aldine, DeMotte—who took the first step in hospital instruction in the sixteenth century in the still celebrated medical center of Padua—Harvey, Descartes, Sylvius, Sydenham, Locke, Boerhaave, Hoffman, Stahl, Haller, Morgagni, Cullen, Valsalva, Fothergill the elder, Jenner, Avebrugger, first writer on percussion, and Lænnec, the inventor of the method known as auscultation, and so on down, or up the line to the famous men of our own generation. In all the past, as even now, the truly great have had one aim in view—the perfecting of our art. Not one, so far as I can learn, of the great men of our science has essayed the establishment of a "school of medicine." With minds

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alert, all these great souls, men devoted to the science of medicine for the sake of its advancement and preservation, met as we meet to-day, opposition, and opposition from those theorists who, then as now, build huge superstructures on weak foundations, and rather than abandon them, support them through that charity which truth so lavishly supplies. These theorists, with their always numerous followers, have ever been stumbling-blocks in the path of progress. It takes time to satisfy the multitude of followers after new gods. They do not follow the suggestions of the Epworth Leaguers and look upward and inward. They tell us they are from Missouri. Long and tedious is the task of conversion, and no sooner finished than some other genius, who has never seen the ascaris, formulates a new doctrine, and like sheep again they go astray. I sometimes, indeed quite often, question whether man is the supreme reasoning being he is given credit for. Look at the Schlatter craze and ask yourself the question. Friends of yours and mine rushed to this medical Klondike and came home wearing a smile on their faces and a blessed handkerchief over their appendices. Had the profession entered protest, as it should have done, in the name of sanity, we would have been charged with jealousy of the more advanced Schlatter treatment of appendicitis—although I believe he never wrote a paper on it—and avarice because of loss of fees. I am not sure myself that there was not a reduction in the number of operations.

Is it true that educated men now, as in the long past, look upon our science as enveloped in mysticism? Do they still think we draw our inspiration from a star? Yet it seems so! And what has vitalized the sentiment in all classes of society that our science is abstract and that our art is more defective than other callings? What makes men think we are a house divided against itself? Has it been dissensions between the great minds of the past? Have the scholars and leaders in modern methods of research, which have taken us forward with giant strides, built schools upon theories, developed or undeveloped? No! They have observed the truth that theories have no plan in science save as a means of research. When facts were discovered they were added to the sum of facts preceding, and aided thus in the evolution of science, not revolution. It has been said that the theorists alone, who have founded new so-called schools of medicine, have had a healthful restraining influence on our profession—that they have acted as regulators to stay our too ardent force! I deny it. Every so-called school of medicine, every pathy, has been, and is to-day, the millstone about the necks of the profession, a stumbling-block in the path of progress. Rational men soon see error and correct it without the interposition of other and greater error. Truth alone makes us mindful of our mistakes and truth alone puts right, and yet there are many among us, ofttimes leaders who advocate compromise with error. They would say, and do say, to these followers of strange and false gods, and those who fasten the stigma of a "pathy" on our honorable calling, "We know you place us in false light—we know your dogmas are founded on error and we know you know it. You have grown to power through our foolish opposition. We know you don't practice as you preach, but you have been making progress toward that rationalism you have so opposed, and still resist. We will compromise with you on your own terms, and while you still persist in forcing a pathy down our throats and parade in public your school, we will extend to you, if you will take it, the left hand of fellowship." Was ever compromise with untruth fraught with good? Suppose we make this compromise with the greatest medical delusion of modern times, homeopathy, not as practiced, but as its followers proclaim it. What shall we do with other licensed so-called schools? Already in many States a so-called school, founded on a better basis than Hahnemann's, has been given equal privileges before the law with rational medicine. If we oppose it in the name of common sense and humanity, it will grow and become a power. Shall we extend to its advocates the privileges of fellowship and association? And that other medical delusion, "Christian science," so-called; why, in an issue of a paper wielding the influence of *Harper's Weekly*, during the struggle of our profession in Massachusetts to stop the craze, appeared an editorial scoring the medical profession—a scathing article. Massachusetts forgot the benefits conferred by medical science and placed this product of an ingenious theorist on an equality before the law.

But the "Christian Scientists" have the best of us. We can extend no hand of fellowship to them. They are of the infinite, and finite medical mortals can not touch them. "As a man soweth, so shall he reap." "He that soweth to the flesh shall of the flesh reap corruption." If, with the lights still shining, as truth must ever shine, from the intellectual heights which mark our progress from Hippocrates to Pasteur, we wish to turn aside, let us not forget that medical anarchy may follow. There is such a thing as too much freedom! I believe in the highest cultivation of individualism, but I do not forget that in that development mutual concessions are necessary to the preservation of organized communities. Already an exaggerated development of the *ego* in medicine has led to the twenty-foot sign reaching across the highway; already it has placed in the public prints cuts of buildings with subjoined claims of the great success attained by the treatment offered. If the advertiser is a member of the profession in good standing, he says, "successfully treated," or "by latest improved methods;" if outside the society circles, he says "cured by our new methods." Now, while there is nothing really improper in this, is it in your opinion, as a society, proper? If so, let us open the way, abandoning professional methods and go into business in a business-like manner. If we are to have unrestrained intercourse with disciples of Hahnemann and osteopathy, let us remove our cloaks of medical sanctity and "take 'em im." Then we will have a united profession and the only laws we will need when these business and social reforms are accomplished will be those requiring graduation and the standing of the college granting the degree. This course would make medical history faster than Spanish war has made political history.

The facts are, there is not, and never has been, an excuse for schools of medicine, any more than there is an excuse for schools of law. I believe the annoyance and vexation caused by the intelligent men in conversation addressing their remarks to "your school" has made many a poor surgeon of material shaped for the strictly medical field. Only a few days ago, a physician, a graduate in medicine, and then from a homeopathist institution, stopped me on the street to ask about an article emanating from "one of your schools."

I am slow to anger, but I forgot the article, although I had read it a day or two before, and walked on humiliated by the intended compliment. Why should men and women educated in these closing nineteenth century days adhere to dogmas? We all know, and yet in the face of all I am glad to note the passing of the old animosities and the growth of a new spirit. I shall be glad when there are no schools.

But is this much desired end to be reached by turning aside from the truth? It has become fashionable of late to have a supply of olive branches in stock, where the old "Code of Ethics" is mentioned, as a sort of a peace-offering, an excuse for the fact that you tacitly only accept it. I have taken the trouble to read this instrument recently and for the first time. Before reading it I did not endorse it and now I do. The chief trouble with it is that so few have read it. Its chief virtue is that it is true from article 1 to the closing explanatory declarations. It allows the greatest personal freedom. While men persist in the light of this century in adhering to and proclaiming a peculiar dogma, while they voluntarily disconnect themselves from the regular organization; while they stamp you with a "pathy" or a "school," they have no right to recognition and much less to the opposition on which they have flourished. The heart of man is kind and always hearkens to the cry of oppression. I will take an osteopath, if he is honest, and that we should presume; what of good can come from your consultation with him? If his practice and precepts agree, the only benefit will depend on the ability of the patient in a financial way, and for this fee, you who advocate freedom, you who call for unrestrained professional action have acknowledged that Mr. Doctor Osteopathy is one of us. In the strictly special work the case is not parallel, although I fear that some among them have the end of the yellow band of the rainbow in mind in certain promising cases.

"But what shall we do to be saved?" Shall we accept the tendency of the time and become socialists? I believe that medicine at present is tending in that direction. Is it desirable? The lodge doctor, the factory surgeon, who don't object to the medical business, and so much per head, per month, the by-the-year doctor, all tend in the direction of socialism. In the great medical centers, and especially in New York, except one owns or is connected with a hospital, he is very likely to be a devotee of modern sanitary laws, perhaps for convenience sake, and eat but twice a day, and water we know is fattening; with a private or semi-public hospital or sanitarium, or a bath-house, the profession overlooks the little 6x10-inch card.

Have we no force within with which to combat this tendency, or is it desirable? If we have tumbled Esculapius from his god-like throne, are we moderns to be purely commercial? If so let us do it by modern methods and not give the advantage to a few. Let us first say to the people, we are all doctors and we offer inducement as follows: First, cash or good negotiable paper. Advertising pays, but it costs money too. We offer you P. D. Q.'s pills, or the latest cut in appendicitis at the lowest cash price; further, we have given this community our counsel and our service in time of need. We have tried to stay the destroying hand of pestilence. We have ministered to the poor and sick with no thought of reward, but times have changed. Your laws have made us all equal, no matter whence we came. We will take you at your word. We are all one now and have formed the trust the governor of Colorado so feared when he vetoed the recent medical practice act. You must pay us now before we call to see your sick poor; you must provide a reasonable fee before any of us will advise you as to the care of contagious disease. Your cities may overflow with disease and death, we will lend no aid until we see the cash!

Are these to be our methods in the future? I think not. You ask what these things have to do with a medical law of conduct and I will answer you that absolute lawlessness in medicine, entirely unrestrained conduct, simply for self-preservation, would lead to medical nihilism. My friends, save for those individual qualities—vouchsafed to us by the divine author of our being—which may give to a few only some advantage over the many of us, we do not differ much. Those of us who have been long in work know our limitations, and the limitations of others to a reasonable certainty. Shall we countenance, for commercial reasons, deceptions?

The builders of this Republic adopted in 1788 a constitution—the key-stone of the arch, the corner-stone of the greatest nation on earth. Wars have flamed around it, dissenters have railed against it, yet it stands to-day as a safeguard to you and to me. The "Code of Ethics" is not so old, yet the battles which have raged about it have been warm ones, but it stands and should stand until time can offer something better, as the guide of our professional conduct, not because most of us need it, but because some of us do. I do not want nor do I expect to see a cold-blooded trust formed, but for the present and the future welfare of the profession, I would like to see an organization which would draw to its councils every reputable medical man and woman in this State. While the laws of the national society are, and should be, the laws which govern us, I would advocate the sending of delegates each year to work for such a revision of those laws as would admit any reputable medical man and woman to membership, but on one, yes, two, positive conditions: 1, securing a medical degree (regular for distinction) or passing an examination before the faculty of a (regular) college or a board from this society; 2, and this is more important than the other, the candidate for fellowship or sistership should declare on penalty of slow torture to the death, never to use the word "pathy" or "school" except in denunciation. I have several letters from honest but deluded men who would sacrifice much to be with us. They should be encouraged, and neither the code nor conscience will punish you for aiding such. They have followed the medical ignis fatuus. Help them to see the real light. I would also advocate the strengthening of our State organization by discouraging the formation of special or numerous interstate societies. They have a tendency to weaken the individual obligation to the State body. Some of our local societies meet too often. The things some of us say are not fresh next time, but if we wait a year and come to the State meeting, we can give and receive inspiration. By a strong organization we can soon remove the "pathy" stumbling-blocks from our path. Medicine to-day —and when I say medicine I do not include directly or indirectly any dogma or school—based on the clinic foundation of Hippocrates and the latest laboratory methods, formulating its conclusions on the study of the phenomena of life, disease, and death,

on a physical basis, is in advance of all other sciences save mathematics or those sciences directly allied. Theology although progressive, must always be more or less speculative, but modern theology has softened its judgment of honest doubt and replaced the law of divine displeasure with the everpresent loving spirit of Him who died for his convictions on the cruel cross. The science of navigation, because mathematics enters its calculations so largely, is very exact, but disaster after disaster tells the tale of man's fallibility. Political economy should not, perhaps, be judged by the course of those who administer or make the laws. Either our statesmen do not read political economy or they are individual economists. The wide separation of views of men regarding taxation, tariff, money, banks, interstate commerce, foreign relations, etc., make up enough exceptions to suggest doubt as to the existence of such a science.

And the law! We all remove our hats in the presence of the law. The law is supposed to be the perfection of human reason. This perfection of human reason is based on a thing which is always more or less defective, that is, on evidence. It is written opinions (decisions) of men who shape their opinions on the knowledge or assumed knowledge of other men, and there is always one great aid to correct decision in law and the whole science narrows down to it, that is, the question of right and wrong. Our friends of the law point to it with admiration, as something exact and tangible, but in the ordinary course of court cases it requires a vast deal of hard work to find the everpresent exactness of human reason, and if we narrow it down to the decisions of the higher courts, it is no rare case to find a reversal even here. Its boast of being an exact science is not tangible. It had its birth in imperfect man. It will get better as the medical profession improves the material of which the courts and advocates are made, and as the clergy trains this improved material into better form; outside mathematics or the strictly improved mechanic sciences, not one to-day surpasses or equals medicine. In the preservation and prolongation of life, it is adding more largely than any other factor to the wealth of the world. Its demands for sanitary improvements have added health and comfort at home and abroad. Its mechanic ingenuity, coupled with scientific training, have made the lame to walk, the blind to see, and sufferers of all kinds to turn with hope toward the modern physician. The patient toilers in our laboratories, handling deadly germs, have patiently worked out and fully demonstrated the cause of many diseases, and as faithfully, through years of labor, given to the world the remedies, one alone of which has saved to many a home and fireside the dearest of all human blessings—the little children—from the ravages of diphtheria.

Similar progress has been made throughout the whole field. Let us join ourselves more firmly and take no backward step. Let us realize that, if not in our generation, in the next the results of too much liberty may be as destructive to progress as too little.

Let us mould the splendid medical material of this State into a magnificent body, united for personal benefit and for the still greater public good. Sacrifice some of self for the universal welfare. Let us encourage those who would abandon creeds and dogmas to join with us in the march of progress, but stay the hand which would lead us away from truth and honor for commercial reasons.

Original Articles.

SUPPOSED INCREASE OF CANCER.

A STATISTIC ERROR.

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Much has been written of late on a supposed rapid increase of cancer. This disease is said to be growing at an incredible rate. Writers have predicted that in ten years its deaths will exceed those of "consumption, smallpox and typhoid fever all combined." Smallpox is included in this preposterous prophecy, apparently to exert a horrifying effect on the public imagination. The deaths from smallpox are so few that they add almost nothing to the mortality list of consumption and typhoid fever, which in the prophetic vision is to be overtopped so soon by that of cancer. However, the supposed terrific increase of cancer is supported by quite an array of statistics, which we will proceed to investigate.

Now, the correct handling of vital and mortuary statistics is a very difficult art, and slight mismanagement leads to very delusive results. Reputable authors on both sides of the ocean are making mathematic mistakes. I make this statement with regret and some shame, for I have myself committed more errors in that line than I like to remember, and I sympathize with others who stumble into similar statistic pitfalls.

The sources of error are of two kinds: 1. The official documents are, by the confession of their compilers, full of great errors, which the census directors have been unable to prevent, or weed out. 2. Unskilful handling of the statistics, as above stated, has led to mathematic errors, and consequently to false conclusions.

Let us look at some of the difficulties confronting the investigator who seeks for truth in the official documents. He knows that the United States Government takes a decennial census of population, of the deaths and of the causes of the deaths during the decennial year. This enumeration is made in every State and Territory in the country. Then each State usually has a similar census five years after the national one, and these are supplemented by various city enumerations for sanitary, school and other municipal purposes. There are careful laws to govern all this enormous census work, designed to secure accuracy in the enumerations. It is natural, therefore, that the student of sanitary science should turn to the official documents with a cheerful confidence that here is a vast mass of statistic material adapted to clear up almost every question about the increase of cancer or of any other disease. The investigator's childlike confidence in the government is rudely shaken.

Even in staid and correct Great Britain, the city populations are "estimated" between the decennial enumerations on the assumption that the rate of increase existing ten years before still continues. This leads, as a general rule, to overestimates; hence, as Willoughby remarks, "each successive census leads to rude disillusions." "In 1891 the population of London was found to be, as Dr. Longstaff had predicted, a quarter of a million less than the registrar-general's

estimate." In estimating the ratio of cancer to population, the reduction of the overestimate of population leaves the cancer ratio relatively larger and gives a delusive appearance of an actual increase of that disease.

The American census work is more difficult than that of Great Britain, and probably more subject to errors. It suffices for the adjustment of congressional districts, and in regard to mere population is better than the work of the State and city governments, but the United States mortality statistics of country districts, made by inquiry from house to house, about deaths and their causes, are wretchedly imperfect, and not only the death counts but the population enumerations have sometimes been so bad that the returns of large districts have been rejected and the enumeration ordered to be repeated.

The distinguished compiler of the vital statistics of the United States census of 1880 virtually confesses that the work of recording the deaths was a practical failure. He says that from various evidences he judges that "the enumerators' returns for the whole country were at that time deficient about 30 per cent. in the number of deaths." Yet these self condemned records are appealed to with the utmost confidence to prove the supposed increase of cancer. The compilers of the census reports evidently regard their own records as so incurably bad that they abandon them, wherever reports of city health departments can be had in their place, and print the statistics of the latter instead of their own. But even this is found to be an imperfect help, for in a considerable portion of these cities, though excellent laws exist, requiring that physicians shall carefully and fully report to their health officer every case of death, with age, sex, cause, etc., the laws are not enforced. Hence, the physicians often fail to report, and when they do send certificates, the officials often fail to embody them in the register. No reliable statistics of the ratio of cancer to the population can be calculated from such confused and falsified registries.

Again, consider the following absurd figures. The best-registered countries of Europe rarely show a death rate of less than 18 per 1000 inhabitants, but the United States census reports give us the following rates: census of 1860, 12.5 deaths per 1000 population; 1870, 12 8 per 1000; 1880, 15.1 per 1000; 1890, 13.9 per 1000. Now, there is probably no nation on earth with such an incredibly low mortality, and the United States census compilers being aware of it and believing, as above quoted, that "the enumerators' returns for the whole country were deficient about 30 per cent. in the number of deaths," have added about that amount to the United States figures, thus bringing our guesswork mortality up to the more probable figure of 18 deaths per 1000 and inserted it in the following table:

Table giving the probable death-rate of the United States for the years 1880-1890, and that of Europe in the years 1882-1892, quoted from the Reports of the Registrar-General of Great Britain for 1882 and 1892.

DEATH-RATE PER 1000 POPULATION.

	1890.	1880.		1892.	1882.
United States	18.0	18.0	Austria	29.4	29.8
	1892.	1882.	Hungary	32.4	37.3
United Kingdom	19.4	20.4	Switzerland	20.9	21.9
England and Wales	19.5	20.5	German Empire	24.4	26.0
Scotland	19.7	20.5	Prussia	24.0	25.5
Ireland	18.2	19.8	Netherlands	20.5	23.5
Denmark	19.0	20.4	Belgium	20.6	22.3
Norway	17.8	15.9	France	22.5	22.8
Sweden	17.1	18.1	Italy	26.4	30.8

The surprising difference of mortality in these different countries suggests that some of them, like the United States, have enumerators who can neither count the living population nor ascertain the deaths without a wide penumbra of errors.

The inefficiency of the census work in the United States is not the fault of the chief officers in charge, but of the individual enumerators under them, whose errors can not be prevented under the present laws.

One source of a seeming but delusive increase of cancer ought to be mentioned. Twenty or thirty years ago the diagnosis of cancer was very imperfect. Great numbers of patients with internal cancers, in the lungs, stomach, liver, pancreas, intestines, etc., were reported as cases of gastritis, hepatitis, chronic bronchitis, etc., and did not appear in the cancer column. Now these errors are far less frequent, and the internal cases are restored to the cancer side of the ratio, tending to give a delusive impression of an increase of that disease.

It is not yet possible to separate the records of carcinoma from those of sarcoma, so that I have been obliged to use cancer as a generic name including both. The carcinomas constitute the great majority in adults, but in small children nearly all the recorded "cancers" are sarcomas.

Several gentlemen of excellent standing have thought and said that the region of which Buffalo, N. Y., is the center is peculiarly scourged with cancer, and allude to the United States pathologic charts or maps as supporting that conclusion. I speak with reserve about this, because the United States pathologic maps are derived from the erroneous United States census, and partake of its errors. In the mortality volume of the census of 1890, there are two colored cancer maps, numbered 21 and 22. Both represent the vicinity of Buffalo to be only very moderately affected with cancer, with the exception of the neighboring county of Chautauqua.

In the large cities frequent enumerations of the population are made by the city authorities for school and other municipal purposes, but these school censuses are even worse than those of the United States, and are very generally worthless as factors to determine the ratio between the living population and the deaths. They generally exaggerate the population, much as the "estimates" of the registrar-general do in England, where his figures were found to overstate the population of London by a quarter of a million.

In Chicago, at the school census taken in 1896, the returns showed a population of about 1,480,000. It is alleged, on apparently good authority, that these figures were subsequently raised by the addition of nearly 140,000, erroneously bringing the population rating up to 1,619,266.

It is also asserted, on credible authority, that at a later census some 240,000 of the residents of surrounding towns and suburban districts, who were daily doing business in Chicago, were enumerated in the city population, on the plea that they were for business purposes residents here Yet their domiciles were outside of the city, and the deaths among them were not, and could not be added to the registry of the health department. Thus the ratios between population and deaths from cancer and all other diseases were totally falsified. Furthermore, employes and others doing business in one ward but living in another were often counted in both places. One immense building is said to have been returned as

having about 3000 occupants, when the great majority of them lived either outside of the ward, or outside of the city.

Similar errors have occurred in the municipal reports of the population of many other American and some European cities, so that all careful statisticians despair of deriving any help from such figures. From these and many other facts the statisticians of the department of health of this city, who are very able men, have lost all confidence in both municipal and national enumerations of inhabitants, and have abandoned the use of them in trying to calculate the ratios between deaths and the living population.

In spite of those discouraging conditions there are some facts which are collected and recorded with precision. As I have previously stated, there are many American cities with well-organized health departments, and good laws for securing a local registry of all the deaths and their causes. It is true that in some of these towns the law is not enforced, but Chicago and several other cities sternly enforce the regulations. In this city no body can be buried, cremated, nor removed from the city without a permit from the department of health, and no permit is ever issued without a physician's or coroner's certificate of the date of death, the disease or injury causing it, the name, age, and residence of the deceased, etc. These particulars are all fully registered in a series of volumes, and the regulations are enforced with almost absolute precision. In consequence of this, the department of health has a full record, almost without exception, of every death which has occurred in Chicago during the last thirty years.

When the investigator of the alleged increase of cancer realizes the fact that the United States enumerations, both of cancer and of population, are too erroneous to give a basis for the necessary comparisons, and that the city censuses are still worse, so far as living population is concerned, he finds only one solid factor remaining, and that is the death registry of such cities as have their work efficiently organized and executed. This suggests to him the plan of comparing at successive periods in such cities the number of deaths from cancer with the total number of deaths from all causes. This plan has been received with great favor, and is extensively employed. If the ratio of cancer deaths to deaths from all causes increases, then he supposes cancer itself increases. Suppose, for instance, he should find registered facts as follows: In 1860, 1 death from cancer to 100 deaths from all causes; in 1890, 2 deaths from cancer to 100 deaths from all causes. If the investigator is careless he will fall into a self-deception here. He naturally supposes that 2 deaths from cancer to 100 is twice as much as 1 to 100 and consequently that cancer in Chicago, or elsewhere, has doubled in the thirty years mentioned.

Not necessarily according to mathematics. These are ratios and not absolute figures. The same ratios can be truthfully stated in various ways. For instance, 2 to 100 is the same ratio as 1 to 50. The above pair of ratios can just as truthfully be written: In 1860, 1 death from cancer to 100 deaths from all causes; in 1890, 1 death from cancer to 50 deaths from all causes. This does not change the values of the ratios, but it shows that instead of cancer being increased the deaths from all causes may have diminished. This way of handling the statistics does not prove which inference is true. It is a simple matter, but it is mortifying to find able men snared and tripped up by a trifling problem in arithmetic.

The real object is to find out which factor has increased or which diminished. Let us study this point and try to discover whether the general mortality, i. e., the deaths from all causes, has undergone any diminution.

The statisticians of the Chicago Department of Health are very thorough men and have devised the following plan to get rid of the erroneous statements of population, and to express in another way the diminution of deaths from all causes. I have not seen this method used elsewhere. As they have almost faultless records of the deaths of all patients, and the exact age of each one for about thirty years, they have calculated the average age of the decedents from all causes for certain years during three decades, and have shown that in thirty years the average age at death has about doubled—in other words, the average length of life in Chicago has doubled. The following extract from the April *Bulletin* explains itself:

INCREASING DURATION OF LIFE IN CHICAGO.

1.—Average Age of Decedents in Chicago in the Years—

1872 15 Years, 2 Months, 10 Days.

1882 19 Years, 7 Months, 1 Day.

1892 22 Years, 8 Months.

1898 29 Years, 4 Months, 16 Days.

Measured by the average age at death of all who died in the city of Chicago thirty years ago and of those who died last year, the average duration of life in this city has more than doubled during a single generation.

That is to say: In 1869 there were 6488 deaths recorded, with the age of each decedent given. The aggregate of the ages footed up 90,336 years, or an average of 13.9 years for every individual decedent, old and young. Last year there were 22,897 deaths similarly recorded, with an aggregate of 672,540 years of life, with an average age for each decedent of 29.4 years. This is an increase of 111.5 per cent.

Returning to our query whether it is the general mortality of Chicago which has diminished or that of cancer which has increased, it will be noticed that the diminished mortality shown by the department of health in the doubled length of life is not very far from equal to the alleged increase of cancer, and to that extent tends to show that cancer has not itself materially increased.

The same idea is strengthened somewhat by the fact that we know very little of any causes that could have increased the malignant tumors. On the other hand, during the period referred to, sanitary science has made tremendous strides in the prevention and treatment of septic diseases, tuberculosis, typhoid fever, diphtheria, enteric diseases, scarlatina, malaria, etc. Moreover, in Chicago we are not overwhelmed now as we were thirty years ago with such enormous floods of horribly unsanitary immigrants, who occupied thousands of filthy, extemporized shanties, often with earthen floors, which were sometimes invaded by puddles of filthy water and partly occupied by pig styes under the same roof with the inhabitants. Since then the streets have been cleaned, drainage has been immensely improved, the marshy ground has been largely graded up and covered with pavements and buildings, and malaria thus reduced. In short, many millions of dollars have been spent on sanitation, vaccination and every possible way of combating and preventing disease. Every physician who lived here thirty years ago knows that thousands of lives are now saved, such as then were lost.

It is said that success in Europe in reducing the

mortality of ordinary diseases has been even greater than in America, and that the thoroughness of the German census renders the use of the population factor less delusive than in America. In German cities of over fifteen thousand inhabitants, it is alleged that during the period from 1877 to 1889 typhoid fever deaths fell off from 29 to 10 per 100,000 population. Gottstein says that in the same cities and the same period, deaths from diphtheria diminished from 100 to 44 per 100,000. Verekoundow says that in St. Petersburg the mortality of typhoid fever per 10,000 population was 7 in the period from 1886 to 1889, and fell to 4 per 10,000 population in the period from 1890 to 1894. He does not state whether there was any imperfection in the census work.

In Vienna it is well known that the change from the use of the Danube River water to high mountain water almost abolished typhoid fever in that city. Sanitary measures and therapeutic improvements have certainly made a great diminution in general mortality, therefore it seems reasonable to believe that the change in the statistic ratios is mainly due to the diminution of the mortality from diseases known to be curable and preventable rather than to any real advance in cancer.

It is evident that I have not cleared up all the difficulties of this perplexing investigation, but all must agree that a changed ratio between deaths from cancer and deaths from all causes does not mathematically show which factor is changed, or in other words, whether cancer is increasing or deaths from all causes diminishing. The latter is the more probable in Chicago.

The final mathematic solving of these problems unfortunately can not be accomplished by conning over any of the ponderous and blundering masses of statistics now existing. The investigation must begin at the bottom, by a new gathering of facts, better verified, better sifted and better handled than those hitherto furnished to the world.

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VARYING TYPE OF GENERAL PARESIS.*

BY C. H. HUGHES, M.D.

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After a study of general paralysis of the insane for thirty years, Mendel [1] believes the type of this disease presenting in the newer and larger clinic picture of paresis, contrasted with its distinguishing features as described by the early writers, is markedly changing, and in this conviction of the distinguished neurologist of Berlin my own clinic experience concurs, as I have been enabled to also verify the myositis of Gowers as an independent condition and as a concomitant polyneuritis. Mendel thinks that this is also true of numerous other diseases, among them especially diphtheria. The present type of diphtheria, as we have probably all observed, is a departure from that of Bretonnieu, so classically differentiated from ordinary membranous croup and called "diphtherite" in the early part of the present century. The earlier descriptions of general paralysis of the insane, made by Bayle, 1822, 1825, 1826, and Calmiel, 1826, preceded by the nebulous recognition of the disease by Willis in 1672 and Haslam in 1798 to 1809, were accounts of chronic cases as observed by alienists in hospitals for the insane.

Mendel notes the following changes: 1. A marked increase in the proportion of dementia cases. 2. Remissions are more often to be seen than were formerly observed, patients recovering temporarily to the extent of resuming business. 3. Apparent arrest of symptoms. "Nowadays," he says, "we make our diagnosis by the pupilary immobility, altered knee signs, analgesia of legs, changes of disposition, speech and writing; we confidently expect a disease to go rapidly to its termination, when behold, in not a few cases the symptoms become stationary and the word 'progressive,' which is presumed to be characteristic of the disease, appears to be misplaced." 4. He notes the appearance of the disease in the female sex in the proportion of about four females to one male, and notes the fact that forty years ago writers declared that this disease was peculiar to males. He also notes the appearance of the disease in the young of late years and reminds us that not long ago it was regarded as a disease of mature years; now he sees the youth of both sexes affected to an equal degree, and regards some of these cases as probably due to hereditary syphilis. Mendel also thinks that the type of syphilis is changed, and believes, with many other neurologists, that this disease is a causative factor in the majority of cases. "It is behind at least three-fourths of all cases," he says. He ignores neuropathic degeneracy as an essential causative factor, and we think quite justly, but blames modern civilization with its high-pressure struggle, ambitions, honors, and chagrins, and the new woman and her new ambitions, as causative influences in the development of progressive general paresis or paralysis of the insane.

This change in the features of general paresis is undoubted. Dr. William Julius Mickle [2] foreshadowed it in his discussion of the varieties of this disease in his clinic contribution to this subject. How are we to account for it? It also has some other features, notably the recognition of the fact by the patient that something is wrong with him, requiring medical remedy, as has been recognized in several of my patients. Melancholia too, as Mickle has so conclusively shown, is seen to alternate with, precede or follow delirium of grandeur more often than formerly observed, and the feeling of *bonhomie* has given place to, occasionally, in my observation, a sort of confident expectation that things would come out right, while recognizing that something was wrong with the head, and to transitory hypochondria. A confession of bad memory and distress in the head presented in my most recent cases—a gentleman of large business affairs, who for the past several years has been conducting his own treatment by going to various sanatoria and traveling about for rest and recreation without consulting medical advisers. He regarded himself as too nearly all right to require medical treatment, and it was only through his brother that I was called to see him. He suffered from insomnia, a discomfort in his limbs which he called "rheumatism insomnia," though he himself was disposed to take no note of it, and a restless, ill-at-ease feeling and a disposition to travel on imaginary imperative business.

Having a hypodermic solution of half a grain of morphia ready in my syringe, I inserted it under his skin simultaneously with the suggestion that he needed it for relief, securing prompt control of him and a

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[1] Neurolog. Centralbl., Nov. 15, 1898.

[2] Mickle: General Paralysis, 2d edition, chapter 20, London, 1886.

more acquiescent disposition on his part to later accept further treatment. This advantage was steadily maintained by repeated subcutaneous medical ministrations of morphia with sodic bromid solution internally, strychnia, hyoscin, digitalin, etc., until a remission of clear level-headedness was secured in the patient, the remission, lasting several days at a time and inspiring hope in the minds of the wife and friends, but not in me, of possible recovery. The sodium salt was administered with pepsin and pancreatic essence and hypophosphites. The patient became tranquil, self-satisfied and satisfied with his environments, and with those about him and with what they were doing for him, his disposition under the dominance of the disease being ordinarily imperious and domineering, with a somewhat well-founded egotistic and extremely confident opinion of his business abilities and financial possessions, but with no grandiose or limitless delusions of his wealth. He had been a financial success in life and he knew it. His confidence in his business ability, however, when apparently well might be described as almost unlimited. His ability and success in managing men was extraordinary. But he wavered some in his illness and regretted that he could not do all he wanted on account of his recurring spells of vertigo. He had also occasional grandal seizures, when his environments were too contracted and the world was too small for him.

He received scarcely two weeks' treatment before his death and could go about and sit up until within a few days thereof. But his mind rapidly failed. Cardiac and vasomotor paresis increased toward the close and he passed, within five days, from a state of mental consciousness with a brief preceding period of exaltation to one of hebetude with flickering pulse and tachycardia. He then became comatose, and finally coma and death came to him.

This man, after sojourning at a watering-place for several years before his death, dissolved his business relations and re-engaged in a similar business with new business associates, and with a good degree of financial success. The enterprise still continues after his death in a highly prosperous condition, so well had he founded it even in his diseased mental condition. There were frequent remissions in his mental condition, which resulted in his automatic propensity to go away to watering-places, where, leading a quiet self-satisfied and restful life, he would temporarily recuperate by the temporary restoring of cerebral energy, and the recovery of a certain degree of mental balance. His condition was at times that of masked or latent rather than actual progressive paresis such as we are most accustomed to see displayed. In this case the pupils were immobile, the knee-jerks *nil*, sensibility of legs impaired, disposition, naturally complaisant and amiable, was changed to one of indomitable absolutely unyielding insistence, which neither his wife nor his most beloved friends could change. He never departed from a once formed purpose.

The gates of perdition could not prevail against him in these imperious moods. The only way in which I could induce him to take the first hypodermic was by having him stop to see me in his carriage en route to the train—which he insisted he must take at a certain hour—and giving it at once without asking permission. I had previously arranged with those in charge of him to stop and see me on the way to the station for this purpose. He was then diverted from his purpose under half a grain of morphia.

A patient of mine so impressed me with the apparent curability of paresis in its earlier stages that I reported it in the literature some years ago.[3] But that patient, after effectual treatment with bromid of sodium, etc., which the patient imagined was for the cure of hemorrhoids, relapsed after about six weeks of resumption of business, into his old condition of active paresis, and died.

I have seen the disease of late years in men between 30 and 40 more frequently than formerly and more often in women.

How are we to account for the change in the type and the earlier accession of the disease? By the precocity, I think, and the more general diffusion among the people of all ages and conditions of business schemes, ambitions, excesses in gaity and folly and opportunities to tax and overstrain their faculties by the increasing diffusion of knowledge of the ways of business; by the spread of intemperance and immoral and brain-exhausting life in ways too many to mention; by the constant rush and restlessness of living, new conditions and more rapid, incessant methods of business, by pleasure's dissipations. The pace that kills is the pace that precipitates paresis in the best mentally endowed, if they are so unfortunate, as consciously or unconsciously, to contract specific disease, while in the more gravely neuropathic, other forms of brain and nerve trouble are precipitated, mania, melancholia, neurasthenia, cerebrathenia, neuralgia, etc.

The telephone, the graphophone, the phonograph, the long-distance 'phone, the megaphone and wireless telegraphy as well as the ocean cable and the rapid modes of travel, are determining factors. For with these annoyances to man the night cometh as of yore, but many a man sleeps not in consequence thereof. The vigilance of one's business, by these means, passes often into that morbid vigilance that robs the psychic gray cortex neurons of the rest they need for daily recuperation, and paresis is precipitated in the organically predestined.

The age in which we live has made fatal advances. Bayle first correctly described paresis, in the opportunities it gives for the younger men and women to get into the swim and push and rush and whirl of life, and opportunities for becoming participants in the excitement and strain of life and procession of death extending more and more among women. These widened opportunities account for the earlier breakdown of men and the more frequent falling of women under general paralysis.

The earlier observations and descriptions too, as said in the beginning, were made within the walls of insane asylums. Since then the type of the observer has changed and the range of observation has extended. We now see other phases from a wider field of observation and a broader knowledge in viewing it. But the types as now observed are more variant, partly because it begins earlier, probably before cerebral vascular and cell degenerating changes have advanced so far as formerly, when they came under expert clinic observation, and partly because treatment is begun earlier and is more intelligently conducted than heretofore. We repress its symptomatology better.

The increased traveling and recreation habits of our

[3] Alienist and Neurologist.

American people, as well as the advanced alertness of the profession in its search for impending paresis, has contributed to modify typic expressions of the disease through a better understood treatment.

In my own clinic experience with paresis an active bromid of sodium and nerve tonic reconstruction treatment, with suitable and timely recreation, rest, well-secured nutrition, abstention from alcoholics, and long-enforced regular sleeps have secured arrests for longer or shorter intervals in the progress of this disease, sufficient, often, to inspire false hopes of cure in non-medical friends and sometimes to result in wrong medical advice as to the discontinuance of treatment, one of my cases having improved so much as to be wrongly advised that only travel was necessary to establish recovery, but the result of which was a speedy fatality.

There are also atypic features of posterior spinal sclerosis, as shown in the following:

A married man, 30 years of age, the father of two healthy children, always temperate as to alcoholic indulgence, and a dry goods merchant and clerk since the age of 13, fourteen years ago had typhoid and eight years ago la grippe. He gives no history of syphilis or of severe exposure to bad weather, as he understands it, and has no skin eruption. His stomach is atonic and he suffers with dyspepsia with slight eructations. He has the Argyll-Robertson pupil, shows the Romberg sign when attempting to stand with feet together and eyes shut and has uncertain feeling under his feet, with ataxia gait when walking. There are no cincture sensations nor fulgurant pains, no evidence of multiple neuritis, no history of rheumatism, plumbism or neurotoxicity from any other cause, yet I think a diagnosis of locomotor ataxia is the only solution of the symptom grouping, notwithstanding the lightning-like pains are absent, though they are severe in the true locomotor ataxia.

This cursory view will renew our interest, it is hoped, in the medicolegal stage of paresis of Legrand du Saul, and help us for other varying features of this interesting disease beyond its prodromal stages.

HEMORRHAGE INTO PONS VAROLII.*

BY AUGUSTUS A. ESHNER, M.D.

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Focal lesions of the pons are not so rare as to make the report of a single case of especial interest; and when of small size, up to a cherry-stone, it is not uncommon for them to be unattended with distinctive, if any, symptoms. This is particularly true of slowly growing tumors; but even large lesions may escape diagnosis if they give rise only to general symptoms, such as ordinary hemiplegia.

The most common morbid conditions in the region of the pons are hemorrhage, softening, abscess and tumor. When any of these is circumscribed, it may occasion localizing symptoms that are so distinctive as to render the diagnosis almost certain, but often the lesions extend to neighboring structures, and the symptoms are complex and varied.

On the dorsal aspect of the pons are situated the nuclei of origin of the trochlear, the trigeminus, the facial and the abducens, while near by are those of the oculomotor and hypoglossus. The pons is traversed by tracts of fibers from the cerebral cortex, some of which cross to the nuclei on the opposite side, while others constitute the anterior pyramidal tracts, which decussate lower down. These various structures lie close together, so that even small lesions are likely to involve functions on both sides. It thus comes about that there may be great diversity in the symptoms, in accordance with the situation and extent of the morbid process.

In a general way it may be stated that if the upper half of the pons be the seat of the disease, hemiplegia will result, involving face, arm and leg on the opposite side, but differing from unilateral paralysis of capsular or striate origin in its greater intensity, in the involvement of the tongue and in the marked contractures that develop later. Usually there are, besides, other motor or sensory symptoms. If the lesion be situated in the lower half of the pons the face is affected (with degenerative electric reactions) on the same side and the arm and leg on the opposite side. It is also possible for one or more of the cerebral nerves arising from the pons to suffer alone, with resulting disturbance of function of ocular muscles, of the muscles of the lower jaw, of the tongue; and the sensory root of the trigeminus may likewise be affected.

Hemorrhage into pons varolii.

The symptoms may further be irritative instead of paralytic, as manifested by spasm and contracture, pain and abnormal sensory impressions; or there may be a mixture of the two groups of phenomena. Bilateral processes may give rise to the clinic picture of pseudobulbar paralysis. Motor ataxia is not rarely observed. It is usually unilateral and often associated with disturbance of the muscular sense, and sometimes also of tactile sense and of the sense of localization. Disorders of hearing and of taste, alterations in the secretion of sweat and urine, and vasomotor and trophic manifestations, have been observed in isolated cases. There may occur seizures unattended with loss of consciousness or attended with slight loss. Large lesions frequently occasion headache, vertigo, vomiting, mental changes, perhaps maniac excitement.

The symptoms of pontine disease may set in abruptly, e. g., when due to hemorrhage; or gradually, e. g., when due to a slowly growing tumor.

I beg to add the report of a case to the statistics of hemorrhage into the pons:

A colored man, 70 years old, was admitted to the Philadelphia Hospital June 8, 1898, complaining of pain in the back and hips, and headache. He had been a sailor, and in addition to the ordinary diseases

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of childhood he had suffered from typhoid fever and malarial fever. He confessed to periodic excessive indulgence in alcohol, but he denied venereal infection. Some two weeks before admission to the hospital the patient had suffered from symptoms of coryza, with cough and expectoration and pain in the chest. Micturition was increased in frequency, and the bowels were constipated. There had been loss in flesh and strength, and headache had been present for a week.

The man was of large frame, fairly well nourished and of good musculature. The sensorium appeared obtunded. The conjunctivæ were injected; arcus senilis was marked. The pulse was regular, small and quick; the peripheral vessels felt moderately atheromatous. Other than accentuation of the second sound of the heart and the presence of sibilant râles, no abnormality of the contents of the thoracic cavity was noted. There was no edema of the extremities. The urine contained a considerable amount of albumin, together with hyaline and granular tube-casts.

The patient was given hot-air baths, but sweating was induced only on added hypodermic injection of pilocarpin, gr. ¼. Some muscular twitching was noticed, but this grew less for a time, and the mental condition improved. Later, however, the twitching increased and active delirium developed; control of the sphincter of the bladder was lost. The respirations declined in frequency to 13 and the pulse to 64. The temperature ranged about 99, except during the last few days of life, when it became subnormal, falling as low as 95 degrees. The patient passed gradually from stupor into coma, while the nervous irritability increased, the head being retracted and the jerking in various parts of the body being marked. Nystagmus was at times present; trismus was not observed. Finally there was difficulty in swallowing, and death resulted from respiratory failure on June 21.

At the post-mortem examination, made by Dr. D. Riesman, eleven hours after death, rigor mortis was well marked. The peritoneal cavity was uncommonly dry. The sigmoid flexure of the colon occupied parts of the left hypochondrium and lumbar regions, reaching as high as the left sixth interspace in the nipple-line. It was bound by adhesions to the mesocolon and to the transverse portion of the duodenum. Bands of adhesion also passed from the flexure to the descending colon itself. The sigmoid was greatly distended, probably on account of compression of the distal portion by a loop of small intestine.

The left lung was free and the pleural cavity contained a small amount of blood-tinged fluid. The right lung was bound by a few adhesions. Both lungs exhibited interlobar adhesions, were intensely edematous in their lower portions, and emphysematous at the periphery.

The heart was much enlarged and hypertrophied, weighing 460 grams. The muscular wall of the left ventricle measured 30 mm. at its thickest part. The leaflets of the tricuspid valve were considerably thickened. Those of the aortic valve exhibited, just below the corpuscula arantii, delicate whitish vegetations. The mitral leaflets were thickened and the seat of scattered yellowish patches of sclerosis. The tendinous chord connecting the anterior leaflet with its papillary muscle was short, thick and dense. The intima of the aorta was much roughened by atheroma, and the wall of the vessel had a leathery feel. It was intensely sclerotic, but not greatly calcareous. The aorta and the pulmonary artery were bound together by old adhesions.

The spleen was firmly adherent to its surroundings. Its capsule was thickened and corrugated. On section the organ exhibited an increased amount of fibrous tissue.

The left suprarenal capsule was enlarged, measuring 72 mm. in length, and 32 mm. in width, and weighing 15 gm. On its under surface were a number of subcapsular, apparently hyperplastic, nodules. The kidneys were small, cystic and granular; the right weighed 155, the left 120 gm.

The liver was elongated, measuring transversely 33 cm.; the antero-posterior measurement of the right lobe was 16 cm., of the left lobe, 13 cm.; the greatest thickness of the organ was 5 cm. The upper surface of the right lobe exhibited two antero-posterior fissures. The organ weighed 1380 gm. On section the outline of the lobules appeared indistinct. The gall-bladder was distended with bile; the ducts were patulous.

The brain was small, weighing 1210 gm. The vessels at the base were somewhat stiff, while those in the fissures exhibited nodular atheroma. The pia on the anterior and lateral surfaces of the pons and medulla was deeply pigmented. The meninges of the convexity were somewhat opaque. In the left half of the pons, about midway between the median raphe and the superficial origin of the fifth nerve, was a small, dark red, apparently recent extravasation of blood about 2 mm. in its several diameters. Transverse section of the pons disclosed a second extravasation of blood, also about 2 mm. in diameter, almost in the middle line, 4 mm. in front of a line joining the two fifth nerves, 7 mm. from the anterior surface of the pons and 25 mm. from the upper surface of the quadrigeminal bodies. (See accompanying illustration.) The ependyma of the lateral ventricles was rough and granular, especially on the fornices, in the anterior horns and in the region of the foramen of Monro. The gray matter of the cerebral cortex was variable in thickness and generally paler than normal.

The patient was looked upon during life as suffering from uremia, and treatment was directed accordingly. At what period in the history of the case the hemorrhages into the pons took place, and whether simultaneously or consecutively, and what part, if any, these played in the symptomatology, can not be determined with any approach to certainty. The results of urinary examination pointed indubitably to the existence of nephritis, while the headache, the mental dulness, the delirium, the muscular twitchings and jerkings, the retraction of the head, the nystagmus, the loss of control of the vesical sphincter, the slowness of pulse and of respiration, and the low temperature, with finally stupor, coma, difficulty in swallowing, and respiratory failure, all comported with the occurrence of uremia. In view, however, of the developments of the autopsy, it seems not impossible that at least some of the symptoms were related to the hemorrhage into the pons.

PELVIC TUBERCULOSIS.*

BY AUGUSTUS P. CLARKE, A.M., M.D.
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Perhaps the most interesting phase of the question presented lies in that portion of the subject which relates to its etiology and diagnosis. To facilitate the consideration of the inquiry it may be well to review carefully the record of the lesions of some of the various pelvic organs, in order to ascertain, if possible, what degree of aptitude or proneness such tissue has for tubercular infiltration. The direct development of tuberculosis in the cervix may be regarded as of uncommon occurrence.

The cervix has, however, been removed in cases in which the disease invading the part was afterward found to have been of a tubercular nature. The involvement of the cervical portion of the uterus or of the vulvo-vaginal introitus might lead to the adoption of the hypothesis that the attack resulted primarily from coitus with the husband, who had been infected with the disease. It is true that tubercle bacilli have been found in the seminal glands and in the testes, but it will be seen that this fact can prove but little when we come to consider the vast number of women who have cohabited for long periods of time with men suffering more or less from such an infection, and yet have apparently

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escaped altogether the influence of such a relation. Indeed, it might be said with equal propriety that sarcomatous and cancerous involvement of the cervix and adjacent parts have been the result of marital intercourse, because the genital tract of the male has been the foci of such malignant transformation.

The record of cases in which tubercular invasion has occurred presents many important points for discussion. The observation, which has been noted by Williams and others, that the ostium abdominale of the tube has often been the first portion of the tube to be affected, points to the fact that the condition has been the result of a mere extension of tubercular processes of the peritoneum. The sources of contamination of the serous tissue are numerous. The principal avenues of entrance are along the lines from the intestinal tract. The morbid condition resulting in adhesions of a portion of the intestine to the tube and the subsequent ulceration or perforation of the united surfaces, as has been reported by various writers, no doubt furnish one of the means by which the bacilli reach the adnexa. From the intestine to the mesentery and from the mesentery to the peritoneum and the uterine appendages the bacilli may pass uninterruptedly.

In many cases, if not in most, tuberculosis of the genital tract occurs in connection with the general dissemination of the disease of the other organs. This not infrequently takes place in childhood and before puberty. Such a diseased state was particularly noticed in a case that came under my care. A short time after peritoneal disturbances became manifest, perforation through the vaginal vault occurred. The opening communicated with a small intestinal aperture that gave exit to a fecal discharge. Tubercular lesions of the adnexa, as originating through the general blood-supply, though occasionally observed, can not be regarded as a common process; for such a view of the natural history of tuberculosis seems scarcely tenable when it is recollected that the genitalia, on account of their highly vitalized condition, are to be regarded as parts most strongly fortified for resisting the encroachments of morbid processes.

As has been said before, tuberculosis of the tube may possibly be conveyed in the semen of a tuberculous man. The observation of cases of tuberculous peritonitis complicated with the involvement of the appendages and of the intestine adherent more or less firmly in a mass has been much more extended. Such was the surgical record of the case of a young unmarried woman who recently came under my care.

The three forms of tuberculosis of the Fallopian tubes, as usually mentioned, may very properly be reduced to two classes, the miliary and the fibroid varieties.

Miliary pelvic tuberculosis may not pass beyond the first stage, or the disease may remain latent for varying indefinite periods. It is in such cases that a mere abdominal incision may be followed by apparent recovery. The record of an autopsy I have made shows that the peritoneum was everywhere studded with recent miliary tubercular deposits. Scarcely any points along the abdominal peritoneum showed signs of purulent changes or caseous transformation. Lower down, however, in the pelvic hypogastrium, near the site where an incision had been made some years before for the discharge of pus, the remnants of the degenerative changes of older tubercular deposits were plainly visible. This observation, taken in connection with other facts, should lead to the exercise of much caution in regarding the seeming recovery following celiotomy resorted to for tubercular peritonitis as being permanent in its results.

The chronic form of fibroid tuberculosis, in which the connective tissue is greatly increased, may become arrested in its course or end in recovery. The connective tissue, in its embryonic development having its origin in the fibrous layer of the skin, tends generally to the production of conservative processes; the preternatural development of the fibrous tissue in the tube, ovary, or other pelvic structure exposes the mass to the danger of becoming, through the diminished vitality, the foci of malignant degeneration.

In further discussion of the subject it should also be remarked that it is as yet quite unsafe to be altogether confident that pelvic tuberculosis takes place solely by mere local extension. The general infection of the organism from extraneous sources has undoubtedly been the more common mode of its inception.

The contamination of the meat and milk supplies should, under the present light of bacteriologic investigation, be regarded as the prime source of its origin. I may here add that the good work done in the State of Massachusetts and in other sections of the country, by invoking the aid of the several governments in the destruction or removal of tuberculous animals from the public use, has been far-reaching in its benefits. On this point I can not speak further than to say that the State authorities, or the members of their respective boards, that have inaugurated these and other measures for the extinction of tuberculosis are worthy of our highest regard and strongest political support.

Williams considers it probable that inflammatory processes may render the genital tract prone to tuberculous infection. The finding by him of gonococci in a tuberculous pyosalpinx, was suggestive that the gonorrheal process prepared the soil for the more ready development of tuberculosis. Another interesting fact mentioned by Williams is seen in cases of miliary tuberculosis of puerperal women, at whose placental site the disease was most marked. The production of such conditions he ascribes to the transmission of the infection through the blood-channels. In general miliary tuberculosis of patients such mode of local infection has undoubtedly, as already admitted, had its origin. In cases, however, in which no primary lesion is discoverable, it may be seriously questioned whether the tuberculous process at the placental site should be regarded as secondary foci of infection.

Tuberculosis of the Fallopian tube has in many cases supervened on catarrhal salpingitis, especially in those cases of a subacute or of a chronic form where other portions of the pelvic or genital tissue have been the nidus of the tubercle bacilli. Tubercular peritonitis may complicate appendicitis, as occurred in one of my cases—that of a girl aged 15 years. After the removal of the appendix the head of the cecum was found to be seriously involved with tubercular deposits.

In not a few cases vesicovaginal and rectovaginal fistulæ have resulted from a tuberculous condition. Such cases have been among the most troublesome to meet.

It may not, as has already been remarked, be impossible that tubercular disease can, by coitus, be con-

veyed to the female by the male suffering from the infection; the bacilli finding uncongenial soil in the vagina, the cervix, or uterine endometrium may then be wafted along the lines to the Fallopian tubes, and there undergo development and effect morbid changes. The presence of bacilli in the testes or in the epididymes of the husbands of women who are found suffering from tuberculosis of the Fallopian tubes is, as said before, far from being positive evidence that the disease has been the result of transmission of bacilli from the husbands, for such infection of the male genital organs may have first been imparted from the female. A case bearing on this point occurred in my practice some time since.

A man aged 23 years, from a good family, had been robust and in good health until some two years after marriage, when he began to suffer from tuberculosis of the right testicle. The wife was of a feeble constitution. She had had two miscarriages, but had given birth to no living children. The placenta on coming away after the second abortion gave unmistakable evidence of fatty degeneration. There were tubercular deposits of the decidua. The woman finally died of general pulmonary tuberculosis. Her mother had also been a subject of tubercular disease.

It may be incidentally mentioned that as a police measure for the conservation of the public health, and for the lessening of the begetting of diseased offspring, the States should prevent, by proper enactment and enforcement of laws, the marriage of persons who may be subjects of grave constitutional maladies.

From the present light afforded by clinic observation it must still be maintained, as Williams and other former writers have substantially held, that tuberculosis of the uterus, ovary, Fallopian tube, or other portion of the pelvic organs or tissues in immediate connection, must be regarded as secondary to some primary areas or foci of infection.

The diagnosis of tubercular disease of the adnexa deserves some share of attention. Enlargement and adhesions of the parts may be confounded with other morbid conditions. Bimanual examination alone will not always suffice. It will often be found necessary to make use of the microscope. The clinic history and the patient's antecedents should be kept in view.

The husband of the married woman, or her lover, when coitus has been indulged in, should be examined to determine the probabilities as to whether he may have imparted tubercle bacilli or have been the recipient of such contamination.

The induration resulting from tuberculous tumors or masses of the tubes may be differentiated from the enlargement of pyosalpinx by the general condition of the case, and often by the absence of febrile or constitutional symptoms. Should such tubal extension of dimensions be found in connection with an abdominal or an omental hardness the diagnosis of tubercular involvement would be much facilitated. The plaque-like infections or depositions of the subperitoneal tissue, when associated alone with tubal tumor, as mentioned by Edebohls, may be regarded as indicative of primary tubercular infection in the tube, and that the involvement of the peritoneum has been the result of the extension of the exudation. When, however, cases have advanced thus far other signs of tubercular disease may show themselves.

In all cases of doubtful character the purulent exudation of the vaginal and uterine tissue should, as before indicated, receive careful and repeated microscopic examination for the evidence such search may afford.

In many cases, notwithstanding that a positive or even a probable diagnosis can not be arrived at, an abdominal incision will be demanded for the relief of symptoms. Here, it may be remarked, comes the point on which not uncommonly turns the treatment of a large number of pelvic and abdominal cases of most serious nature, though an exact diagnosis of such can not at first be determined.

DISCUSSION.

Dr. HOWARD KELLY, Baltimore—The subject involves a large percentage of all our gynecologic work, and so is one with which we ought to be familiar and about which we ought to have decided opinions. Our knowledge is limited with reference to the causation of pelvic tuberculosis. I feel sure that it has nothing to do with coitus in a considerable percentage of the cases. I have investigated this matter carefully, and I do not recall a single instance where the disease could be so attributed. The condition of the uterus and cervix would also suggest that the disease did not take place by that avenue. The disease localizes itself; finds its extreme expression in the tubes. It is, however, found in the uterine body in a much larger percentage of cases than is commonly believed. It is important for two reasons. In the first place, it enables us in a large number of cases to make a positive diagnosis before opening the abdomen. I recall three instances in which I was able to make a diagnosis of tubercular disease of the tubes by curetting, removing and microscopically examining tissue which appeared to be macroscopically perfectly healthy mucosa, and I found giant cells and tubercle bacilli. The diagnosis was made unhesitatingly and confirmed at once by operation. I have seen one instance of tuberculosis of the cervix. It looked at first like carcinoma of the cervix, the tissue being very hard, glistening, and breaking down under the firm use of the curette.

As to operation, as in tuberculosis elsewhere, we ought to remove the diseased tissue. If we take out the tubes and ovaries, we should remove the tubercular uterus with them, whatever may be our rule with reference to leaving the uterus in other conditions. In two instances I have been compelled to be conservative, the patients having had a clear understanding that I should not remove the essential structures—the tubes and ovaries. In both instances the patients recovered. These operations were done several years ago. I mention this as a matter of great interest, but not for imitation. When we open the abdomen in tubercular cases, we should carefully observe the extent of the lesions, how far the disease extends over the peritoneum, and more particularly the condition of the retroperitoneal glands. I find any amount of extension over the intestines and peritoneum interferes with a good prognosis. I have over and over again left a tubercular peritoneum which looked as if a heavy sheet of gray blotting paper was laid over it, and yet the patients made perfect recoveries, and I have had cases of ten and twelve years' standing. I believe in some of these patients the relief from tubercular peritonitis has given them an immunity against tubercular disease elsewhere.

Dr. E. E. MONTGOMERY, Philadelphia—I wish to put on record the case of a girl, 13 years of age, who came under my observation recently with tubercular disease of both ovaries and tubes, the disease being confined to those organs and the peritoneum not being involved beyond them. A singular feature in the condition was that this girl had a tumor, apparently of the bladder, but on careful investigation through the urethra, it was found that there was no involvement of the internal surface of the bladder, so that the cystoscope led me to believe that I had made a mistake in diagnosis, and the tumor was situated in the peritoneal cavity rather than in the bladder itself. On opening the abdomen for the removal of the tubes, it was found that the supposed tumor of the bladder was apparently a diverticulum from the bladder; that the distension of the bladder would result in forcing urine into the diverticulum, lifting it out directly into the wound, and in emptying the bladder again the diverticulum would become small. The patient had been suffering for a long time from inability to retaine urine, she being compelled to pass it every few minutes. As the peritoneum covered over the surface nothing was done with the diverticulum itself, we contenting ourselves with removal of the diseased tubes and ovaries. We subsequently resorted to distension of the bladder by irrigation, and the patient could retain her urine for three hours at a time. Since the operation she has been much relieved, and

has gained in health and strength. The interesting point is the development of this disease in so young a person without any other point of association of the disease and the coincidence of this diverticulum.

Dr. ALBERT GOLDSPOHN, Chicago—I would concur with Dr. Kelly in the remark that tuberculosis of the tubes is more frequent than we have previously thought. I was much interested in the cases he incidentally mentioned, of leaving cheesy tubes and not observing any disastrous results within a few years afterward. When we take that one observation, and then the other general observations that tuberculosis of the peritoneum is recovered from rather generally; when we remove the principal focus, the tuberculous tubes and ovaries, and the patients recover, then I am not exactly willing to say that the uterus should invariably be removed when we find tuberculous disease in the adnexa. Our modern policy, or more laudable plan of operating in gynecologic cases, is to preserve the female organs, particularly of young persons, to the extent that they will at least menstruate. The woman who menstruates is happier than the one who does not menstruate, particularly if they are young, and we should strive to the ut most to save the uterus and a part, at least, of one ovary. For this purpose, it seems to me, it is indicated to leave the uterus sometimes and part of an ovary even when we remove the tubes.

Dr. C. C. FREDERICK, Buffalo—This question of tuberculosis of the uterus and adnexæ being raised, and Dr. Kelly speaking about leaving some tuberculous organs *in situ*, leads me to speak of a case that I had about five years ago with double tubercular disease of the tubes and ovaries, in which I removed tubercular abscesses involving both tubes and ovaries, making a supravaginal amputation of the cervix. The woman made an excellent recovery; increased in flesh and strength for about a year, then she had a localized tuberculous abscess on the left side, which had opened through the vagina and continued to drain despite all efforts, and she is now developing pulmonary tuberculosis.

Dr. C. E. RUTH, Keokuk, Iowa—Four years ago I operated on a colored woman for the removal of a forty-pound ovarian cyst. On opening the abdomen I found the peritoneum spread out over the entire tumor, adherent to it and thickly studded with tubercular deposits. I did not like to separate the adhesions because they were so extensive, and simply ligated off the entire omentum and removed the tumor. In this way most of the tubercular deposits in the abdominal cavity were removed. The patient recovered and seemed to be none the worse for the loss of omentum, but died last winter from pulmonary tuberculosis.

Dr. J. HENRY CARSTENS, Detroit, Mich.—Sometimes we find the tubercular deposits limited to the appendix. They certainly do not come from the vagina, or the uterus by way of the tubes, but simply involve the appendix, which shows beyond any doubt that tubercular deposits in the peritoneum, or anywhere else for that matter, do not come from the vagina and get up into the peritoneum in that way.

I agree with Dr. Kelly in saying that we do not have to remove the uterus or tubes in all cases. It is claimed that there is a difference between the involvement of the mucous membrane and the serous membrane, but I must say that in my experience I have seen absolutely no difference. I do not think I remove tubercular tubes once in ten cases of tubercular peritonitis. If a tube is absolutely degenerated, I remove it, but, as a rule, the tubercular focus will become absorbed and thus do away with the necessity of removal.

A short time ago I saw the wife of a physician whose case was very obscure. Indeed, it was very difficult to make a diagnosis. I was called and supposed I would have to operate for gall-stones, but I concluded she had some other trouble, and I decided not to operate at that time. In the course of four weeks from the commencement of the disease, she died, going into delirium and dying in a comatose condition. A post-mortem examination was made, and that woman, from the top of her head down to the bottom of the pelvis, as far as we could determine, was tuberculous. There was not a spot on her liver, kidneys, intestines, uterus, lungs, etc., but what was a mass of miliary tubercles. Where did they come from? They did not come from outside. She undoubtedly got them through the stomach. Tubercular infection can take place through the alimentary canal, the lungs, and not necessarily from outside.

Dr. JAMES F. W. ROSS, Toronto—This question of pelvic tuberculosis in women is one of great interest. I have had a considerable number of cases, and I had the pleasure of reading a paper on the subject before the British Medical Association last year. The surgical treatment has been discussed chiefly, but the diagnosis seems to have been overlooked. The diagnosis is of great importance, and I will illustrate that by mentioning one or two cases that have come under my observation. Dr. Carstens' case reminds me of one I operated on for supposed ectopic pregnancy, or interference for the purpose of producing abortion. The woman had hemorrhage from the uterus; a mass was felt in the pelvis. An operation was performed, and tubercular disease found. Shortly after she went into a comatose condition and died from general miliary tuberculosis chiefly affecting the brain. The stirring up of the parts by operation might have hastened the result.

I would ask Dr. Carstens what he is going to do with the ovaries and tubes when a patient comes to him as a consequence of excessive hemorrhage from the uterus? Then, the operation is done for the purpose of relieving the menorrhagia, and to relieve that we must not of necessity remove both tubes and ovaries. If a severe stage is reached and bad pus-tubes are to be found and intestinal tuberculosis is present, I consider it unwise to make any attempt to remove the pus-tubes. I did so once, but I shall never do it again. The bowel tore through during the operation on account of its friability, and the patient died as a consequence. This disease I have found to be more frequent among young unmarried women, where there is no question as to previous coitus, therefore I conclude that the disease does not come up from the vagina, but enters the system in some other way. To cure the cases by abdominal operations is among the marvels of our work. We hardly know how it happens. I have seen patients prostrated (with pelvic tuberculosis) to the last degree recover after a simple celiotomy, where collections in the abdominal cavity were left untouched, the abdomen being simply washed out and closed, the patients finally regaining perfect health.

Dr. JOSEPH RILUS EASTMAN, Indianapolis—With reference to the diagnosis of pelvic tuberculosis, I want to call attention to a very important means of which no mention has been made. The symptoms menorrhagia and amenorrhea are very uncertain: they may or may not be present. The entire symptomatology of the condition is decidedly indefinite, but by resorting to one particular means of diagnosis we may reach a positive decision. I refer to diagnostic curettage, that is, curetting fragments of uterine tissue broken down by the tuberculous process and examining them microscopically, isolating the bacillus of Koch, then we are sure of our ground.

Dr. D. TOD GILLIAM, Columbus—There is one feature in connection with this subject that has not been mentioned in the discussion, and I have never seen it mentioned in any of our text-books, nor have I heard anyone speak of having had a similar experience. It is this: We may have tuberculosis which runs its course in the peritoneal cavity and renders the patient an invalid; the tubercular process subsequently becoming transformed into calcareous masses. A few years ago I had a case the history of which was very obscure. The patient suffered incessantly, and I was called and made an exploratory incision to see whether we could find out the cause of the trouble. Bimanual examination revealed nothing whatever. On making an incision I found a portion of the peritoneal cavity studded with little angular calcareous masses, and by digging these out with the finger-nail I managed to, relieve the patient of all we could find, and closed the wound, and she recovered.

Dr. C. R. REED, Middleport, Ohio—Some six years ago a woman, 30 years of age, who had been twice married and had not been pregnant, consulted me suffering from some obscure abdominal disease. She was emaciated and her general health much impaired. I suspected ovarian disease and so informed her. To make the case more plain I suggested an abdominal section, in order to be positive about the diagnosis, and which seemed to be indicated in the case. She was menstruating at the time, regularly and rather freely. She consented to an operation. I opened the abdomen, and found one ovary and tube, tied it off and removed it. The other ovary or tube I could not find nor even any part of the ovary, nor any indication there had ever been one, and I searched carefully. I then turned out some of the intestine through the abdominal wound and found the peritoneum studded with something, but did not know exactly what. They did not seem like well-formed tubercles. I had the intestines out on the table one after another, and I brushed them all over with a sponge dipped in hot water, and the particles were readily removed. After the abdomen was thoroughly cleaned out, the wound was closed. The woman had been coughing more or less, but I could not detect any disease of the lungs. I had trouble in getting the abdominal wound to unite, as it suppurated considerably and continued to do so for some time, but healing subsequently took place. What was the result in that case? She came to me very weak, and after this operation she gained considerably in flesh, improved in color, and in every respect

she was in excellent health for about a year, after which tubercular infection attacked the lungs and other parts of the body, and in a short time she died with tuberculosis of the hip. In this case the result from sponging off the peritoneum in the manner I have indicated, and cleaning out the cavity thoroughly, was excellent. But the ultimate result was bad, and in such cases we get no credit for the operation.

Dr. W. B. DORSETT, St. Louis—Not enough attention has been given to the use of antiphthisic serum in the treatment of these cases. I operated on a girl, 12 years of age, eight weeks ago, who had undoubted tuberculosis in which the intestines were involved, as well as the uterus and adnexa. So far as breaking up the adhesions is concerned, it was out of the question. The abdomen was opened, the cavity washed out with normal salt solution, and I began the next day with injections of antiphthistic serum, as prepared by Dr. Fisch. The patient has gained considerably, her fever has disappeared, and she is now on the road to recovery.

Dr. CLARKE (closing the discussion)—I agree with Dr. Kelly that the cervix may become infected with tuberculosis, but it has not been my experience, nor according to the contributions I have read. In a number of cases infection takes place through the stomach, and probably through the alimentary canal, and in this manner reaching and involving the pelvis. It may infect other parts, as the lungs, and in that class of cases one is not assured that by operating and removing the tubercular deposit he will effect a cure of the disease, because there may be tubercular foci or centers in other parts of the body. I aggee with one of the speakers that we should save a part of an ovary or as much as is possible in the case of a young woman, so that menstruation can go on. The history of some of these cases is sometimes remarkable, because after the principal tubercular foci have been removed, the peritoneum will take care of itself.

DIETETICS OF OBSTETRICS.*

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The problems of dietetics in pregnancy concern the questions relating to the quantity and quality of food necessary in normal cases for the best condition of mother and fetus, the best arrangement of meal times, the possibility of modifying the development of the child by diet so as to make spontaneous labor possible in cases of slight degree of pelvic contraction or easier in all cases, the possibility of determining the sex of the child by dieting the mother, and also the proper regulation of the diet in pathologic conditions, such as emesis or hyperemesis gravidarum, and in kidney diseases. During labor the question of diet is important only when it is very protracted or with weak or sick patients. During childbed the physician has to consider not only what food is necessary for the mother, both in normal and pathologic conditions, but also the effect of diet on the milk secretion, and thus on the health of the child. Since it would be impossible for me in this short paper to consider all of these questions with any degree of thoroughness, I shall only attempt to call your attention to their chief features and present briefly the results of the more recent studies of the various problems.

Concerning the quantity of food required during gestation, we meet at the outset the idea more or less common among women, and perhaps also among physicians, that the prospective mother "needs to eat for two, herself and her child." It is true that she must furnish the material for the growth of the embryo, which with its appendages amounts to, on the average, about one-half ounce a day. This, however, is all that is required. It is not necessary to provide for the energy that is required by a child after birth to maintain its body heat and its muscular movements. An infant needs relatively much more food than an adult to maintain its condition of equilibrium on account of its proportionally greater body surface. I estimate that an infant should have about 500 calories of food a day. The unborn child is freed from this demand. Moreover, all the heat furnished by the katabolic changes in the fetus is as available for the mother as if the same changes occurred in her own body. Hence there is no reason to suppose that a pregnant woman will need more than a very slight excess of food. As a matter of fact based on careful measurements, it has been found by Baumm that a pregnant woman required no more food than a woman in the non-pregnant condition. The diminution in exercise and the better protection from cold will easily explain this fact so opposed to the ordinary belief. As regards the quality of food, it may be said that in normal conditions the ordinary mixed diet is perfectly adapted to the needs of the pregnant woman. It is only necessary to observe caution in the use of all foods that are hard to digest, such as salads, etc. It is not usually safe to trust the appetite when it manifests itself in unusual "longings."

In the later months of pregnancy and sometimes in the earlier months, the patient finds it difficult to digest a large meal, and hence it becomes necessary to increase the number of meals per day. If the chief meals are taken at the usual hours of 8 A.M., 1 and 7 P.M., it is desirable to add a lunch between meals. If a tendency to morning nausea exists, a glass of hot milk, taken in bed on awakening, adds a sixth mealtime. The following diet table may serve as a sample for a patient of average size in a normal condition, who takes a fair amount of exercise:

7 A.M. Hot milk, 6 oz.=180 gm.: proteids, 6; fat, 6; carbohydrates, 7; water, 160.

8:30 A.M. Apples, oranges, pears or grapes, 6 oz.=180 gm.: carbohydrates, 18; water, 158.

Coffee, with cream, 2 oz.; sugar, ½ oz.=180 gm.: proteids, 2; fat, 4; carbohydrates, 13; water, 160.

Oatmeal, 2 oz.=60 gm.: proteids, 8; fat, 4; carbohydrates, 40; water, 6.

Cream and sugar, 1 oz.=30 gm.: proteids, 1; fat, 2; carbohydrates, 6; water, 20.

Egg, 2 oz.=60 gm.: proteids, 8; fat, 7; water, 35.

Toast, 1 oz.=30 gm.: proteids, 3; carbohydrates, 22; water, 5.

Butter, ¼ oz.=7 gm.: fat, 6; water, 1.

11 A.M. Milk 4 oz., seltzer water, 4 oz.=240 gm.: proteids, 4; fat, 4; carbohydrates, 6; water, 226.

1 P.M. Apples, oranges, etc., 6 oz.=180 gm.: carbohydrates, 18; water, 158.

Chopped beef or steak, 2 oz.=60 gm.: proteids, 13; fat, 1; water, 46.

Potatoes, 2½ oz.=70 gm.: proteids, 2; carbohydrates, 15; water, 50.

Green peas or beans, 1 oz.=30 gm.: proteids, 2; carbohydrates, 4; water, 20.

Toast, 1 oz.=30 gm.: proteids, 3; carbohydrates, 22; water, 5.

Butter, ¼ oz.=7 gm.: fat, 6; water, 1.

Tea, with cream and sugar, 6 oz.—180 gm.: proteids, 2, fat, 4; carbohydrates, 13; water, 160.

4 P.M. Milk and seltzer, 8 oz.—240 gm.: proteids 4; fat, 4; carbohydrates, 6; water, 226.

6:30 P.M. Soup, with egg, 6 oz.—180 gm.: proteids 8, fat 7; water, 165.

Chicken, etc., 2 oz.—60 gm.: proteids, 14; fat, 2; water, 44.

Rice, 2 oz.—60 gm.; proteids, 4; fat, 1; carbohydrates, 46; water, 9.

Toast, 1 oz.—30 gm.: proteids, 3; carbohydrates, 22; water, 5.

Butter, ¼ oz.—7 gm.: fat, 6; water, 1.

Dessert. Farina, ½ oz., milk, 4 oz., egg, ½ oz., sugar ½ oz.—160 gm.: farina: proteids, 1; carbohydrates, 11; milk: proteids, 4; fat, 4; carbohydrates, 6; egg: proteids, 2; fat, 2; sugar: carbohydrates, 15, with a total of 115 gm. water.

Coffee, cream and sugar, 6 oz.—100 gm.: proteids, 2; fat, 4; carbohydrates, 13; water, 160.

Total: Proteids, 96 gm.: fat, 74 gm.; carbohydrates, 303 gm.; water, 1946 gm.

*Read before the Chicago Academy of Medicine, April 14, 1899.

To this should be added one to four pints of water, according to the wishes of the patient, which will be modified of course by the amount of exercise she takes, the time of year, etc. It is best taken a glass at a time, two to three hours after meals. In summer, berries, melons, etc., may replace in part or whole the fruits mentioned.

The gross caloric value of the above dietary is about 2327 calories, of which 394 calories come from the proteids, 691 calories from the fat, and 1242 calories from the carbohydrates. In round numbers the dietary would contain about 100 gm. proteids, 75 gm. fat, and 300 gm. carbohydrates, with a value of about 400 +700+1200=2300 calories. From this it will be seen that about 17 per cent. of the food value comes from the proteids, 30 per cent. from the fat and 53 from the carbohydrates, a proportion that does not differ materially from that given by Rubner for his Category 1, which includes those who are not engaged in severe or considerable muscular work.

In considering the dietary best for pregnancy, as I intimated at the beginning, it is necessary to regard its effects on the development of the fetus, and particularly to discuss the question whether labor can be affected by means of the diet. Over 100 years ago many attempts were made to make labor easier by underfeeding the mother, often combining this treatment with free purgation, bleeding and overexertion. These measures were so disagreeable and often harmful to the patient, and had such unsatisfactory results, that the treatment was finally abandoned. About fifty years ago, Rowbowtham, a London apothecary, devised the fruit diet for his wife, who had had two severe and unfortunate labors. This diet consisted of raw or cooked fruits, apples, oranges, lemons and grapes, five or six times a day, with a small quantity of bread and butter once a day, fish or meat, with potatoes, once a day, and rice or sago, with milk, once a day. It was supposed that this diet contained a scarcity of bone salts and that in consequence the bones were soft and the head more compressible, making labor easier. Since fruit contains a considerable quantity of lime salts, it is probable that in Rowbowtham's diet, on account of the great amount of fruit eaten, as great a quantity of salts is consumed as in the ordinary mixed diet. The condition of the child may be attributed better to the deficient nutrition, just as rickets in children is often produced by a lack of one or more of the nutritive elements, especially to the lack of fat. It is certain that by this diet an underfeeding is brought about, but in a way that is not very disagreeable to the patient. The diet also produces free action of the bowels, which is an important factor in combatting headache and the general malaise from which so many patients suffer. On this account the dietary which I have already given contains, as will have been noticed, an abundant supply of fruits. On account of the deficient caloric value of the Rowbowtham diet, it can never be of general use, although it may be employed, no doubt, with greater or less thoroughness in some cases, with much benefit.

Ten years ago Prochownik proposed another dietary with the same object of influencing the development of the child. Starting with the fact that the child acquires most of its fat during the last ten weeks of its intrauterine life, Prochownik proposes to prevent this fat deposition or accumulation by keeping the mother, during this time, on an antifat diet similar to Oertel's. His dietary in detail is the following:

Morning—Small cup of coffee, 25 gm., about 1 oz. of zwieback.

Noon—All kinds of meat, eggs, fish, as much as desired; little gravy; some green vegetables prepared with fat; salads; cheese.

Evening—The same, with 40 to 50 gm. of bread, and as much butter as desired; as a drink, 300 to 400 c.c. of red or Mosel wine. He forbids water, soup, potatoes, desserts, sugar, beer.

Prochownik proposes this diet, not for general use, but only as a substitute for the induction of premature labor in those cases of contracted pelvis of the first or second degree, where this operation would be indicated, or perhaps in primipara, where a difficult labor might be expected on account of undilatable vagina or vulva. With this diet he has secured easy labors and living children in a number of cases where previously there had been very difficult or instrumental labors and dead fruit. As he had expected, the children showed the absence of fat and were under weight, although they were of normal length. Similar favorable results have been reported from clinics in Giesen, Munich and Cologne. The objection that was made to the Rowbowthan diet, viz., that it involves an underfeeding, does not apply to the Prochownik diet. The deficiency in carbohydrates is made up by the increase in the quantity of fats and proteids. It may, however, be difficult to carry out because of the water restriction. I have had no experience in the use of the diet in cases of contracted pelvis, but in two recent cases of diabetes in pregnant women, where a similar diet was instituted, one being in a primipara, the labor was unusually easy. The weight of the children was slightly less than the average in children of the same length. I could not affirm a relative absence of fat. The primipara was a rather fat woman and I would rather attribute her easy labor to the considerable improvement in her general condition which was brought about by the diet. The favorable reports that have been given by all who have tried this diet make its further trial desirable, especially in properly selected cases, i. e., where the degree of pelvis contraction is slight and where the diet would probably favorably influence the patient's condition, as in cases of obesity.

A year or two ago both the laity and the profession were excited by the report that Professor Schenk of the University of Vienna had discovered and was making use of a method of determining the sex of the embryo by a system of diet. Last year his book appeared, giving the basis of his theory and the essence of his treatment. It would not be an exaggeration to say that all were disappointed in the book. The confused presentation of his theory and the absurdly small number of cases given to support his practice and confident assertions were very surprising. In brief, Professor Schenk believes that sex is determined by the ovum alone; that a well-nourished and developed ovum produces a male while a less perfect ovum forms a female. The development of the egg depends on the condition of the mother's nutrition during the few weeks preceding maturation, ovulation and fecundation, and perhaps for a short time following fecundation. The condition of the mother's nutrition is discovered by the presence or absence of sugar in her urine. If sugar is present, even in a very small amount, such as can be determined only by the phenyl-hydrazin test, the consumption of food is not perfect, and the tissues, especially the ova, suf-

fer. By an antidiabetic diet this nutritive error may be corrected and the ovum developed so that it may form a male. Schenk can give no directions to those who want a female child, but if a boy is wanted he proceeds as follows: if at the time of ovulation a careful examination of the urine shows no trace of sugar present, he advises an immediate impregnation. If sugar be present, he puts the patient on an antidiabetic diet, i. e., an albuminous fat diet, until all traces of sugar disappear. Then the patient is advised to become pregnant and the diet is continued for three weeks longer, when it may be stopped. If the patient can not carry out the treatment, or if in spite of it the sugar does not disappear, the case is hopeless; the patient can not bear sons. It is a curious coincidence that in three cases of diabetes in pregnancy which I have had since Schenk's theory became known all the children were girls.

The two most common pathologic conditions during pregnancy, which require a special dietetic treatment, are the vomiting of pregnancy and the kidney of pregnancy or albuminuria gravidarum. In mild cases of emesis gravidarum where there is only morning sickness it is generally sufficient for the patient to take a cup of hot milk in bed on awakening, remain in bed one-half to one hour, and then eat as soon as possible after arising. The proper preparation and serving of the food is here of exceptional importance. In more severe cases it may be necessary for the patient to take breakfast in bed and remain in bed the whole forenoon. In pernicious vomiting it is necessary that the patient remain in bed all the time in order: 1, that as little energy as possible be dissipated in maintaining bodily heat and in muscular movements and; 2, that the cerebral centers be supplied as well as possible in spite of the disturbed and weakened circulation. The diet should be milk given hot and alone or prepared in some way by mixing with water or some thoroughly cooked starch preparation. Water may also be furnished by the rectum or in cases of emergency by injection under the skin. I believe that the dietetic and hygienic management of emesis gravidarum is of the utmost importance and when properly carried out will make unnecessary medicinal and operative measures.

The ordinary dietary of pregnancy should be considerably changed in cases of kidney disease, the most common of which are those associated with the well-known pathologic condition described by Leyden as the kidney of pregnancy. It is a well-established principle that in all kidney derangements no substances which produce compounds irritating to the excreting kidney should be ingested. This rule excludes, in general, meat and beef teas, whose extractives are not wholly harmless. Moreover, an excessive production of urea which results from the consumption of meat is harmful. A free ingestion of water to wash out the kidney is desirable. This is supplied with the blandest of foods in the form of milk. Hence a diet consisting chiefly of milk has come to be considered as the most valuable food in kidney disease. This reputation it deserves in the case of the kidney of pregnancy. According to the urgency of the case, two to three quarts of milk a day, diluted if necessary to secure sufficient fluid, with one to two quarts of water is the ideal diet. A small amount of carbohydrates in the form of farina or rice may be added and perhaps a little toast or zwieback. Also grapes, oranges, apples or pears may be included. The adjuvant treatment consisting in the avoidance of exposure, in sweating, saline purgatives, etc., influences the quantity of water as well as the amount of other nutrient elements required. Three quarts of milk furnishes 1900 to 2000 calories, which, with 300 to 400 more furnished by the fruits and other carbohydrates, is sufficient for the patient, who loses comparatively little energy by cold. When the acute symptoms disappear and the kidneys show a fair functional activity the quantity of milk may be reduced one-half and the wanting portion substituted by carbohydrates.

During labor many patients can take no nourishment, not only because they have no appetite but also because of frequent vomiting. As labor lasts only eight to sixteen hours generally, food is not required. Only in cases of great debility, as in consumption or in heart disease, is it necessary to care for the diet, and then stimulants rather than foods are indicated.

In the first three or four weeks of the puerperium the diet problem is an important one. During labor the patient has lost over one-tenth of her weight and during the first week of childbed she will lose more than one-half as much more. Half of this loss is from her own body, while the rest is the fetal part. To restore this loss and for the nursing mother to provide one to two pints of milk a day requires a good supply of food. On the other hand we may remember that she lies quiet in bed and is protected from cold.

Notwithstanding this evident need of a nutritious diet we are met with the popular belief, often shared by physicians, that a "light diet" is necessary, either because the stomach is weak and can not stand a full diet or because it may cause fever.

It is often true that a patient is not very hungry for a day, or perhaps two, after labor. She, however, does require much fluid and gladly takes large quantities of milk here indicated. As soon as the appetite for solid food returns, or in case it is present immediately after labor, a full diet should be provided.

The quantity which should be provided depends only on the capacity of the digestive organs, for which the appetite is a pretty good index. This is apt to be disturbed on account of the autointoxications and other derangements arising from a torpid bowel and resting muscular system. These disturbances can be corrected or eliminated by caring for the intestinal evacuations and by massage of the limbs and body.

Before laying out a typic or average dietary, it will be necessary to discuss one question of much importance, viz.: what is the influence of the various articles of diet on the secretion of milk? The popular ideas concerning the harmful effects on the milk of certain articles of diet, especially acids, although not based upon any scientific observations, are yet not eliminated from text-books and still influence professional practice. The recent observations of Baumm and Illner seem to show conclusively the falsity of this view. All kinds of fruits and even pickles, salads, etc., eaten by the nursing mother, had no effect on the demonstrable chemic composition of the milk nor on the nursing child.

We may conclude, therefore, that a dietary adapted to a nursing mother in childbed does not differ essentially from the mixed diet we have found suitable to the pregnant woman. If the appetite demands a larger quantity it might be desirable to increase the carbohydrates to 400 grams per day, thus increasing the caloric value of the ration about 400 calories.

With such a diet we restore the mother as soon as possible to a normal state and avoid some of the disagreeable consequences of a starvation diet that were formerly met with.

GANGRENOUS ULCERATIONS.

AFFECTING THE FACE, INCLUDING THE LIDS OF BOTH EYES AND DESTROYING THE EYEBALLS—THE RESULT OF BITES BY A MAN.

BY SWAN M. BURNETT, M.D., PH.D.

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Carrie L., colored, 24 years of age, living in Fairfax County, Virginia, was admitted to the Emergency Hospital on April 22, 1898, with the following history: Eight days before, at 2 A.M., she had been attacked by her husband in a fit of madness. He stripped off her clothing and proceeded to bite her and claw her with his fingernails about the face and upper portion of her body, especially the chest, abdomen and back. She was found in an exhausted state by her neighbors in the morning and placed under the care of a local physician. Her condition, especially as to the injuries on the face, not improving, she was sent to the Emergency Hospital, where I saw her on the evening of April 22. I found both eyes entirely covered with a thick scab composed, as it seemed, partly of iodoform and partly of gangrenous tissue. There was a large phagedenic ulcer, with undermined edges, on the right cheek, three and one-half by two inches, involving the entire thickness of the skin, a smaller one near the angle of the mouth and two or three still smaller ones on the nose and upper lip. On removing the scabs covering the eyes, after softening them in hot boric acid solution, it was found that the edges of both lids of the right eye had been eaten away for their entire length, that the conjunctiva of both the eyeball and the lids had been destroyed, and the cornea had an ulceration occupying two-thirds of its surface and extending through its entire thickness, through which the iris had prolapsed. On the left side the destruction was even more extensive. The whole of the outer halves of both lower and upper lids were involved in an ulceration which extended down on the cheek and temporal region, covering a space of three by four inches. The destruction was more profound than on the right side, going deep into the tissues of the orbit and reaching to the bone at the lower outer portion. The whole of the anterior half of the globe, including a portion of the sclera, was gone. The surface of the ulcers was covered with a most foul-smelling, greenish decomposing matter.

Figure 1.

Figure 2.

The bites on the body were nearly all far advanced toward perfect healing, and these wounds seemed not to have taken on the phagedenic character of those of the face.

All the dead matter was carefully dissected from the surface of the ulcers, until healthy tissue was reached. In the left orbit this necessitated the evisceration of the contents of the eyeball and the cutting away of some portions of the tendons of the external muscles of the eye, and a removal of a large part of the orbital tissue. Fig. 1 gives a very good idea of the appearance after the wounds had been cleansed. After this thorough cleansing, the surfaces were covered with iodoform gauze and a protectve bandage applied. An examination was made of the gangrenous

material and the discharge, but no unusual micro-organisms were found, those present being the staphylococcus pyogenes aureus and albus.

At the end of the first twenty-four hours she had a sudden rise of temperature to 106 F. This subsided in a few hours to practically the normal, at which it remained during the rest of her stay in the hospital. Under a nourishing diet and simple dressings of iodoform gauze, the healing went forward rapidly, and at the end of two weeks she was able to leave the hospital for her home. The condition was then as is represented in Fig. 2. There was total symblepharon on both sides, and the inside of the lids was everywhere adherent to the walls of the obits. The resulting cicatrices on the face are much smaller than was to be expected from such extensive ulceration.

Having heard legends of the poisonous character of the bite of the "blue-gum" negro, I made inquiries as to that quality in her husband, but it was most indignantly denied by the wife.

In this case it is hardly possible to determine whether the extensive ulcerations on the face were due to some poisonous quality in the bites or scratches, or to the condition of the patient at the time, or to the want of treatment at the beginning. It is worthy of note that the bites on the abdomen and back, made at the same time, healed with promptness, and, supposedly, under the same treatment as that given to the wounds of the face, and that when the wounds of the face were put in an aseptic state they also healed well and rapidly. It was expected that some virulent micro-organism would be found in the discharge, possibly a form of streptococcus, but a careful search brought none to light. The general health of the patient at the time of her discharge was excellent.

ETIOLOGY OF ECLAMPSIA.*

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It would seem as if some apology was necessary for again presenting to the society a paper on the etiology of eclampsia after the subject had been so exhaustively discussed by the eminent essayist of a year ago, but the great importance of the subject and a desire that the society may use its opportunities to experiment and investigate in a new direction is sufficient justification.

The year has brought forth some new material which is extremely suggestive and of great interest in this connection. The etiologic agents which have been so thoroughly discussed and rediscussed are doubtless familiar to all, and will receive no mention further than the statement that for the purpose of this paper all phenomena in connection with the brain, ureters and urine, to which hitherto etiologic importance has been attributed, are not to be regarded as etiologic factors, but only as results or at most as of accessory importance.

It is evident at the outset that this statement does not harmonize with many currently received opinions on this subject, but I hope to show with some plausibility that a different doctrine is at least entitled to earnest consideration.

*Read before the Illinois State Medical Society, Cairo, May 1899.

The preponderating significance of the blood and circulatory apparatus as carriers attracts the attention to the theory which seems to me to present the greatest degree of inherent probability to-day—a toxemia, with a possible predisposing cause in hereditary irritability of the nervous system; a condition of the blood induced by the circulation therein of a poison or poisons, the nature of which is at present undetermined. It is not uric acid, it is not creatin, but it is known that there is excreted by the urine a toxin as yet unseparated (Fultz and Ritter, confirmed by Bouchard) which may upon final isolation and analysis be found to be this poison from the circulation, probably a leucomain of the uric acid group.

It is believed that the source of this toxin is in the uterine metabolism. This opinion, supported by the investigations of Lange, from whom extensive quotations will be made later, follows from a logical examination of the general conditions associated with eclampsia. It is well established that eclampsia only occurs during pregnancy and the puerperium. The system of the eclamptic, therefore, is the same as before pregnancy with the one exception of the growing uterus and its contents. Only such metabolic product then can be considered as occurs either entirely in pregnancy or in much greater quantities than in other persons.

The fetal origin of the toxin is well supported by such names as Chrobak, Potter, Byers, Kollman and many others, but to establish this position it is necessary to show a direct connection with the fetus in utero and aside from the difficulty, if not (at present at least) the impossibility, of doing this, all of the conditions would not be fulfilled, as for instance in the postpartum cases. It seems more probable that either the uterus or placenta or both conjoined are the responsible sources of the toxin. The placental metabolism is not yet sufficiently understood to be considered in this connection more than to refer to its possibly great importance (Schmorl) in the alteration of the maternal blood by some coagulating substance. Gynecologists have long recognized tachycardia during the presence of fibroids, and why is it not possible that the active, proliferating muscle cells in the growing uterus should develop a metabolic product which may produce systemic effects, and as in some cases of fibroid a distinct myocardial degeneration sometimes ending fatally (Riesman)? The large size of the uterus is not the cause of the eclamptic attack, for this condition is found in other states of the organism where eclampsia does not occur, as in the large fibroid and ovarian tumors.

It was shown by Winckel, and confirmed recently by Byers and Morisani, that when the fetus dies in utero, even when the premonitions of eclampsia are present, the danger is greatly diminished, if not entirely removed, and when the child is living and premature labor is induced, the attacks usually cease. The inference is that when uterine activity is abolished the possibility of an attack is greatly diminished.

This is further supported by the fact that attacks occur more frequently among pluriparæ, which is due not to distension nor to the presence of one or more additional ova, but results directly from the necessarily increased uterine metabolism.

Perrochet closely approximates the above conditions when he attributes the cause of the eclampsia to a poisoning of the blood (through metabolic pro-

ducts out of the placental circulation, urate poisoning and ptomains), and further states that the poisoning increases the irritability of the brain.

The clinic history of eclampsia is that of toxemia, and, according to Zweifel, multiple thromboses are invariably found post-mortem in the liver, lungs and brain of all fatal cases, which would indicate the presence in the circulation of some product of organic change with blood-coagulating power.

It has been shown by Chamberlent's experiments that the toxicity of the blood is increased in both mother and child when the former presents eclamptic symptoms.

As Kaltenbach says, "the prodromata—gastric and cerebral symptoms, the rapid occurrence of serious disturbance of the brain, the post-mortem increase of temperature, the nature and frequency of the nerve disorders that follow and find their analogy in the neuroses consequent upon typhus and diphtheria probably caused by toxalbumins—are scarcely to be explained unless by the theory of blood-poisoning."

The post-mortem appearances also confirm the belief that the toxin works through the blood. Schmor found (in seventeen cases) the liver hemorrhagic (sometimes anemic), necrosis of the parenchyma, venous and capillary thromboses in the vicinity of the necrotic foci, but not in the necrotic portion, thus showing that the thrombus represents the beginning of the process. The liver presents nothing pathognomonic of eclampsia, but of infection, degeneration of the liver-cells with or without hemorrhage (Bar and Guyisse). The lungs show extensive venous and capillary thromboses and edema; the heart flaccid, the spleen enlarged.

The pathologic alterations which Jagodinsky found in eight cases of puerperal eclampsia are interesting in this connection. In the cerebral cortex and in the ganglia there was cloudy swelling and fatty degeneration of the nerve-cells, in some cells even necrosis; blood extravasations in the vicinity of the vessels, and effusion of white blood-corpuscles. The neuroglia cells were increased. He attributes these changes to inflammation, but they easily adjust themselves to the present theory.

Toxins tend to spend their power largely on the nervous system, and in proportion to the development of the nervous system their effects become more perilous. The particular form of nervous system wherein eclampsia will arise most frequently, because it is the most sensitive, is the one wherein we find hysteria or epilepsy, neurasthenia or dipsomania, and indeed neuralgias of long standing, and this influence can be transmitted by families and would naturally be increased in the unmarried. It is not sufficient, however, to say that this nervous disposition will explain the vomiting, chorea, faintness, headaches and vagaries of a pregnant woman, nor is uterine reflex satisfactory.

Many of the infectious diseases begin with vomiting and in them, as in pregnancy, it may be so persistent as to threaten life; here also albumin appears in the urine after a longer or shorter time and may herald the approach of uremia with eclampsia or coma or both.

It has been definitely settled by many observers that the heart is enlarged in pregnancy, the left ventricle more than the right; it increases during the course of gestation, is at its height at labor and disappears when delivery is accomplished.

If in scarlatina we first see vomiting, then nervous disturbance, then albuminuria, then enlargement of the heart, we would say there was certainly some toxin circulating in the body. Why not in pregnancy? This hypothesis has been greatly strengthened recently by Lange's very interesting article on the thyroid gland in relation to pregnancy.

His work extended over four years and as the result of his examination of human females and experiments on pregnant cats, he concludes "that a hyperplasia of the thyroid gland is physiologic in pregnancy," thus confirming Freund's investigations, "that the hyperplasia has never been observed (by me) in the affection of the kidney peculiar to pregnancy; in chronic nephritis on the contrary it occurs in pregnancy."

"Pregnant animals (cats) require for the maintenance of their health larger thyroids than the non-pregnant. After the total extirpation or the removal of more than four-fifths of the thyroid, tetany occurs in pregnant animals, but is promptly relieved by administration of thyroiodin. When a remnant of the gland is left large enough to keep a non-pregnant cat healthy, there will occur in the pregnant cat a kidney disease of rapid course which sometimes gets well without bad symptoms after the cat litters, and at other times produces convulsions and coma. These convulsions are not identic with tetany and are just as little influenced by the thyroiodin as the coma.

"Thyroiodin has an undoubted symptomatic influence over the pregnancy kidney of women—whether specific or not remains to be determined."

He examined 133 pregnant women and in all but 25 (3 of which were doubtful) he demonstrated thyroid enlargement at some period of the pregnancy. In the 18 cases wherein the gland was not enlarged there was absolutely demonstrated "pregnancy kidney" and albuminuria, which in 6 instances terminated in eclampsia, and in 4 others of this small number severe headaches appeared, which we have always dreaded as premonitory signs of eclampsia. In two cases where nephritis was present before pregnancy the gland enlarged as usual.

The significance of the findings is very great if they are confirmed and developed by further experimentation. To test the hypothesis let us assume that a product—as yet chemically unknown—arising from uterine metabolism is poured into the blood and by its presence exercises a specific influence on the thyroid gland, whereby a hyperplasia of the latter is gradually produced, which may be called "pregnancy goiter," and the glandular secretion, probably thyroiodin (Baumann), which represents most nearly the product of the physiologic activity of the gland, is developed in large quantities. The function of the thyroid is to regulate metabolism and the product of the activity of the hyperplastic gland is hostile to the uterine product and destroys or neutralizes it. In this case the pregnancy would run a physiologic course and exhibit a minimum of the usual disorders of pregnancy. This may occur where the kidneys are healthy or in the presence of a chronic nephritis.

Assume again that for some reason the physiologic hyperplasia does not appear, as in the 18 cases recorded by Lange. The uterine metabolic product imperfectly neutralized by the small thyroid and the insufficient production of thyroiodin circulates through the system and produces the toxemia, the effects exhibited being one of degree. The kidneys and the

bowels assist in the disposal of the toxin. Probably a large portion is absorbed by the kidneys and excreted, in an allotropic form possibly. If in too large quantity for easy elimination by the kidneys, or perhaps from the direct effect of the substance in its passage or by its presence in the blood, albuminuria and pregnancy kidney occur, the albumin is not the toxin but an effect of the toxin; an alteration in venous pressure will produce albuminuria and the circulation of toxins of diphtheria and scarlatina will do likewise.

In exceptional instances the kidneys may excrete the toxin without evidence of disturbance. If from excess of production or inefficiency of the thyroid a gradual accumulation of toxic material occurs, the symptoms of toxemia slowly appear, with the usual signs of intoxication.

Persistent vomiting is the most constant of these and may be the only symptom exhibited throughout the pregnancy. In other cases the system reaches the point of saturation and a trivial incident may suddenly precipitate a maternal eclamptic attack, intrauterine eclampsia or premature labor, as Olshauser observed in 40 per cent. of his cases.

It is interesting to compare the various periods of the eclamptic seizures with the periods of glandular hyperplasia. In pregnancy the eclamptic attack is most common from the seventh to the ninth month. The "pregnancy goiter" appears in primipara usually in the sixth month, and in multipara in the fifth, thus anticipating the possibility of attack by from two to three months, but the greater part of the attacks occur about the tenth month, when the uterine metabolism has reached its maximum.

In cases which occur postpartum, the cause may arise from the process of involution and the consequent increase in the system of cell products, or the toxic product of uterine metabolism locked up in the cells of the uterus may be released by involution, or suddenly by the pain activities, and thrown in large and unmanageable quantities upon the system.

Further observation and experimentation is necessary to confirm our belief in this hypothesis, but it is certainly a relief to turn from the numerous and unsatisfactory theories of the past to one with so promising an outlook.

ACUTE INFANTILE DIARRHEA.

ITS TREATMENT.

BY J. O. MALSBURY, M.D.
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While, in a general way, the plan of treatment herein mapped out will apply to any form of diarrhea, it is intended more especially for the auto-infectious forms, such as are due to a process of fermentation, which may lead to putrefaction and decomposition of the contents of the alimentary tract; the auto-infection resulting from the absorption of the toxalbumins or ptomains, a product of the particular fermentative or putrefactive process, and if allowed to continue will lead to pathologic changes in the alimentary mucosæ.

With the above facts in view we have already indicated the cause of the trouble, and the general plan of treatment all but suggests itself: *clear the alimentary tract and keep it clear, by withholding all food for twenty-four to forty-eight hours.* The clearing process is very efficiently accomplished in a child of a few days or weeks old, by 1 grain of calomel, dry on the tongue, every half hour until three doses are taken; one-half hour following the last dose, two teaspoonfuls of equal parts of castor-oil and aromatic syrup of rhubarb should be given. If the child is several months to a year or more of age, two-grain doses of calomel should be given as above, to be followed by six teaspoonfuls of the above mixture, better in divided doses. Should there be persistent vomiting, as there will, when the acute process is confined to, or principally in, the stomach, it should be cleared by use of the stomach-tube and a weak salt solution. If the tube is not at hand and the child can be persuaded to drink freely of pure water, better with a little salt, until free emesis, the same purpose will be accomplished. After this is accomplished the lower tract should be cleared as above, for some offending portion will have already reached the intestine, and if allowed to remain will set up trouble there. In case the vomiting is persistent, after the stomach has been emptied, precluding further medication to free the lower tract, give a hypodermic of morphin sulphate 1/200 to 1/100 gr., and atropin sulphate 1/1000 to 1/500 gr. for the younger child above mentioned; for the older one, morphin sulphate 1/100 to 1/50 gr., and atropin sulphate 1/250 to 1/500 gr. This will quiet the stomach and at the same time give the child much needed rest, while the stomach will retain such medicine as may be indicated, as well as fluid, which the little sufferer is famishing for, but which has been rejected almost as soon as taken. Now that we have the stomach quieted and the clearing process well under way, and all food prohibited as above, we will look to the restoring of our little patient to his normal self.

When we note what our little patient has lost, and remember the congested and relaxed condition of the alimentary mucosæ, the indications for further treatment are plain. The lost fluid must be replenished; the flagging vitality must be bolstered up by a stimulant, since just at this time food can not be allowed; the condition of the alimentary mucosæ demands an astringent, while the famishing thirst of the little sufferer must be gratified. All of these indications are met admirably by a *weak infusion of cold tea, plain.* In this we have the *fluid, stimulant,* and *astringency.* If properly prepared, the water having been previously boiled, a slightly rounding teaspoonful of best quality tea steeped twenty minutes in two or three pints of water, is given cold but not iced; it may be given freely, in fact, the thirst fully satisfied, when, in some cases, we will have given two to six pints in twenty-four hours. The lack of animal magnetism, which probably detracts very materially from the store of resistive power of the bottle-fed infants, since they do not come in contact with the mother, as do the nursing children, is a feature not to be overlooked or underestimated, and should be supplied by nestling the child to the nude bosom of the mother or nurse as in imitation of nursing. This is, perhaps, more urgently needed in bottle-fed infants; in fact, if these little "bottle-feeders" were nestled as above with more or less regularity throughout their infancy, it is a question if they would succumb any more readily on properly prepared cow's milk, than the regularly nursed infants do, on human milk. Either class of food may come to the child poor in quality, and, perhaps, containing the elements of fermentation and putrefaction, when it becomes a ques-

tion of resistance, in which case, the regularly magnetized child, as occurs during nursing, has the best of it, and will hold out longer against the encroachment of disease, as well as make a better stand during its attack. During the last few hours of the fasting period, and perhaps for the first twenty-four hours following, albumin water should be given every two or three hours; this is prepared by compressing the white of one fresh egg through a napkin and adding to it twelve to sixteen times its quantity of cold, boiled water and a little salt. The whites of from two to six eggs may be allowed in twenty-four hours, and as the stomach becomes capable of digestion, the ordinary diet may be gradually resumed.

TETANUS TREATED WITH ANTITOXIN.*

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At this time, when the serum therapy of disease is receiving close attention, it seems well to report all cases in which a test of this mode of treatment has been made. Tetanus is not the least important of the diseases in which antitoxic serum is employed as a curative means. Again, it appears especially desirable to report and consider carefully the fatal cases, knowing as we do the readiness with which good results are reported, while practitioners are not so apt to report the unsuccessful application of any therapeutic means. For these reasons the following case is reported as concisely as the bringing out of the necessary points will permit:

Victor C., aged 7 years, a compactly built boy, of Creole extraction, presented the first symptoms of the disease on the night of April 15, 1897, when he woke up with a painful stiffness of the muscles. Two weeks previously he had got a splinter into the plantar surface of the right foot; a small sinus persisted at the site from which the entire splinter was thought to have been removed.

When first seen, on the evening of the 16th, the boy could separate his teeth sufficiently to permit the insertion of the index finger; his head was strongly extended, his back markedly arched; the abdominal muscles were a little rigid. Liquid nourishment (milk, broths) was ordered, and perfect quiet enjoined; chloral hydrate, grs. v., and potassium bromid, grs. x., were directed to be given every hour until he should fall asleep.

April 17, A.M.: Temperature 98.6 F. in rectum. Clonic convulsions had occurred during the night, with biting of the tongue. The plantar sinus was laid open, chloroform being administered. A splinter was removed, the site well cleansed, and an iodoform gauze pack introduced. Twenty c.c. of the antitetanic serum of the Pasteur Institute, obtained from Dr. P. E. Archinard, demonstrator of microscopy and bacteriology in Tulane University of Louisiana, were injected hypodermatically, ten in each flank. Chloral and bromid were given every two hours.

P.M.: Pulse 126. The boy had had several clonic convulsions, with much pain. He was more rigid. The head and back formed a marked curve. The teeth could be separated one-quarter of an inch. The bowels moved once on this day.

April 18, A.M.: Temperature 101, pulse 106, respiration 26. The patient was less rigid. Marked opisthotonos was observed only during the clonic contractions, which were not frequent, but could be brought on by any irritation, such as a touch, even the attempt to swallow a small dose of medicine. Ten c.c. of serum were given hypodermatically after the administration of a few whiffs of chloroform.

P.M. Temperature 102.4. Improvement was manifest. Another dose of 10 c.c. of antitetanic serum was given under chloroform anesthesia. Two bowel movements occurred during the twenty-four hours.

April 19, A.M.: Pulse 168, respirations 56. The boy was swallowing a little better, but was very weak. Liquid peptonoids were given. Frequent, slight, general muscular contractions were observed. The bowels moved twice. Death supervened in the afternoon, without any apparent change in the symptoms.

Comment: Death followed the administration of the last dose of serum, given at a time when the patient was improving. On the principle, *post hoc, ergo propter hoc*, we might attribute the fatal issue to the last dose. While we can not deny the possibility of giving an excess of the serum, yet, considering the fact that the instructions accompanying it tell us to give an adult as much as 50 to 100 c.c. in one or two doses, it is not probable that 40 c.c., given in the course of thirty-six hours, caused the *exitus lethalis* in this case. Rather is the death to be attributed to exhaustion—a great danger in all tetanic patients; in the present instance unsatisfactory feeding and lack of the absolute quiet enjoined no doubt permitted dissipation of the boy's vital energy.

*Contributed to the Transactions of the Southern Surgical and Gynecological Association to qualify for membership.

HYDROCHLORIC ACID.*

SIMPLE METHOD OF ADMINISTERING.

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DETROIT, MICH.

Some of the drugs which we prescribe are offensive to the taste, and some are destructive to the tissue while on their way to the stomach, but it is part of the practitioner's duty to guard his patients against possible injury and discomfort. Scrupulous thought has, therefore, been devoted to this phase of our practice, and a too-ready host of proprietary saviors have rushed to the rescue. We have aromatic this and elixir that, and all kinds of implausible and indefensible preparations to meet the embarrassment. Yet, all these have proved to be a sorry failure, and hydrochloric acid and other mineral acids are still a trial in administration.

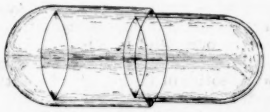

Fig. 1.—Double capsule—closed.

It is evident that we must try to reduce or make nugatory the irritating effect of hydrochloric acid on the mucous membrane of the mouth, the pharynx and the esophagus. The mineral acids decalcify the tooth substance, and this decalcification opens up a chance for bacterial propagation, for micro-organ-

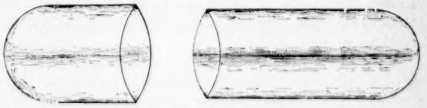

Fig. 2.—Single "00" capsule.

isms settle in the softened tissue and their proliferation is rapid, causing the destruction of the matrix and the disintegration of the tissue. This is the process of caries of the teeth, which is the principal danger in administering hydrochloric acid. We attempt to meet this difficulty by giving the drug through a glass tube, but this does little good, since

*Presented at the Annual Meeting of the American Gastro-Enterological Association, Washington, D. C., May 2, 1899.

the acid finds its way around the base of the teeth, where it does the harm we refer to. Rinsing the mouth with alkaline solutions does not meet the case, but rather complicates it. Most patients are not disposed to endure such an additional ordeal, and the want of sufficient scrupulousness in the matter superinduces the damage any way. I believe that the interests involved, both as to the preservation of tissue as well as to the maintenance of comfort to the patient, demand that we devise a method of drug administration that shall be genuinely protective and tolerable.

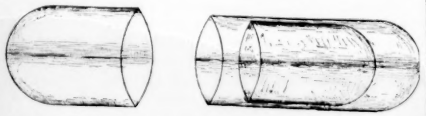

Fig. 3.—Inner capsule partially inserted.

I wish to submit a suggestion with regard to the administration of hydrochloric acid, which my personal experience has shown meets the difficulties with the best results. In prescribing the acid, I at first suggested to my patients that they take it in gelatin capsules. I found, however, that the acid penetrates the capsule quite quickly. After repeated trials I found that two capsules, so arranged that a smaller containing the drug, was encased by a larger one, would give sufficient thickness to obviate the difficulty of quick penetration, and would, in fact, retain the drug for a long time. It gives the patient ample time for swallowing and reduces whatever annoyance or risk is involved to a minimum. The double capsule is easily constructed. The cap of an "O" capsule

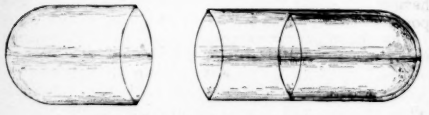

Fig. 4.—Inner capsule in proper position.

will fit into the bottom of an "OO" capsule, and forms with it a bottom of double thickness, and offers, therefore, a twofold resistance to the action of the acid. Similarly with the other half of the capsule. The patient is instructed to use an ordinary dropper for filling the capsule, immediately before taking. Such double-bottomed capsule can hold fifteen minims of hydrochloric acid.

I have used this method of administration for some time and have found it practicable and acceptable to patients.

Parke, Davis & Co. have devised apparatus for the manufacture of these capsules at a slight advance over the price of the ordinary gelatin capsules.

32 Adams Ave. West.

Experimental Research in Regard to Infiltration Anesthesia.—Heinze and Braun report extensive personal tests on the various anesthetics employed for infiltration. They reject all the formulæ in vogue, for one reason or another, and propose the following as a solution that fulfils all the conditions required in infiltration anesthesia: 0.05 to 0.2 per cent. cocain in 0.8 per cent. salt solution at the temperature of the body.—*Virchow's Archiv* (Berlin), cliii, 3.

ACUTE ANGINA.

REPORT OF CASE FROM WHICH THE MICROCOCCUS TETRAGENUS WAS ISOLATED IN PURE CULTURE.

BY AUGUST JEROME LARTIGAU, M.D.
Assistant in Pathology and Bacteriology, Bender Hygienic Laboratory; Pathologist to Child's Hospital; and
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Clinical Professor, Albany Medical College; Visiting Physician to Albany Orphan Asylum.
ALBANY, N. Y.

More and more attention is being directed to the pathogenesis of the micrococcus tetragenus in human pathology through the increasing observations of recent years upon this subject. Until lately it had been regarded purely as a saprophyte of little importance; but the bacteriologic studies of investigators in the domain of clinic medicine point very conclusively to the pathogenic rôle of this organism from time to time in the human subject, generally as processes more or less localized in their nature, less often in the form of systemic invasion. The conception of the possible pathogenesis for human beings is to a considerable extent largely the outcome of the investigations of Chauffard and Raymond,[1] Lepage and Bezançon,[2] A. Bertaux,[3] J. Castaigne,[4] Carriere[5] and others.

Notwithstanding the fact that the micrococcus tetragenus has already been associated with a considerable number of varied lesions, the reports of instances of tetragenic infection of the throat are small in number. Apert,[6] in the early part of last year, reported three cases of this nature, two of which were conclusive examples. One of the writers[7] later added three cases to this list; and as far as known to us these are the only cases referred to in literature in which the tetragenococcus has been recognized as bearing a casual relation to some types of acute angina.

The following case came under the observation of one of us about a year ago:

H. L., 27 years of age, physician, was taken ill on March 11, 1898. His family history was unimportant. As a child he suffered from some of the diseases common to that period of life. A noteworthy point in connection with past illness is the very marked tendency to cerebral symptoms—manifestations accompanying processes, often of a mild nature. For some days before the appearance of the present throat symptoms he had been suffering from diarrhea, which had weakened him considerably. On March 11, there was anorexia and headache; the succeeding day the left tonsil became swollen and painful. The next day the patient remained in bed, the temperature having reached 101 F., and the throat became more painful, both tonsils swollen and covered with a few discrete, raised, yellowish or gray areas of membrane formation not larger than the size of a pea. The pharynx was markedly swollen. This condition continued, the temperature rising to 103 F.; the pain in the throat had become more intense and the membrane, now diffuse, was yellowish white in color, covered both tonsils, the posterior wall of the pharynx,

[1] Deux cas mortels de septicémie tetragénique. Arch. de Méd. Exp., Mai, 1896, p. 304.
[2] Méningite suppurée localisée du au M. Tetragène. Gaz. Heb. de Méd. et Chir., Jan. 27, 1898.
[3] Pseudo-rheumatisme infectieux. Gax. Heb. de Méd. et de Chir., 2 Janvier, 1896.
[4] Pleurésie purulente et septicémie mortelle produites par le tetragène. Bull. de la Soc. Anat., 1897, p. 309.
[5] Presse Méd., Oct. 27, 1898.
[6] Apert: Angine à tetragène. Séance de la Soc. de Biologie, Jan 29, 1898.
[7] Lartigau: A Contribution to the Study of the Micrococcus Tetragenus in Acute Angina. Phila. Med. Jour,, April 22, 1899.

and was easily detachable, leaving a bleeding surface. On the evening of the fourth day there was slight delirium, which became more severe on the following day, and finally the sixth day found the patient again rational. On March 16, the seventh day of the disease, the membrane disappeared, the temperature was normal and a marked amelioration was apparent. From this time convalescence was rapid. The treatment consisted in the administration of trional, ice-packs to the head, and an antiseptic gargle.

A swab was taken from the throat on the third day of the disease and a culture on blood serum, prepared in the usual manner, showed a profuse growth, the cover-slips from which contained moderate-sized, oval cocci arranged almost entirely as tetrads and taking the aniline gentian violet and Loeffler's methylene blue stains evenly and deeply. A few diplococci of similar size could be made out. Treated with Gram's solution, the cocci retained their stain.

Agar and gelatin plates made from the blood-serum culture contained pure growths of a coccus which behaved on media as follows:

Agar slant: profuse, gray, moist, slimy growths slightly raised above the surface of the medium.

Blood-serum: a growth similar in character to that on agar.

Potato: thick, slimy, white growth.

Gelatin stab: white growth along the line of inoculation, and in three or four days a round, raised, white, button-like growth on surface; no liquefaction of the gelatin.

Faintly alkaline bouillon: very slight turbidity of the medium and a thick gray or white viscid deposit in the bottom.

Litmus milk: slight acidity but no coagulation of milk.

Dunham's solution: growth similar to that in bouillon; no indol formation.

Lactose, glucose and saccharose media: no evidences of gas production.

Hanging drop: preparations showed no motility and cover-slips from various media exhibited a variable morphology—sometimes diplococci, less often tetrads. The organism stained by Gram's method.

A full-grown guinea-pig, subcutaneously inoculated with 2 c.c. of a 24-hour-old bouillon culture, died in four days, with abscess formation at the point of inoculation. The inoculated coccus was recovered from the abscess, blood and viscera. Four c.c. injected into one of the auricular veins of a three-quarter-grown rabbit produced stupor, and death in eighty-seven hours. The organism was recovered from the blood; cover-slips from the viscera, pus from abscess in guinea-pig, and the sections of tissue from the animals experimented on contained tetrad cocci in abundance.

The bacteriologic diagnosis was micrococcus tetragenus (Gaffky).

The appearance of the throat, it has been thought by Dieulafoy[8] in some cases, is to be regarded to some extent as a characteristic of this class of infection: "*Ils donnaient l'apparence d'une gorge qui aurait été saupaudrée de grains de sable,*" to which French observers give the name "*angine sableuse.*"

We are constrained, however, from our experience, based on four cases of tetragenic infection, to regard the throat picture as variable in presentation, sometimes simulating the supposedly, until lately, characteristic appearance of diphtheria; at other times resembling tonsillitis in its common forms. The phenomena of a general systemic nature in the cases thus far studied have been in a general way similar to those common in acute tonsillitis. The case reported in this paper was one accompanied by profound disturbances, but the cerebral symptoms are, perhaps, to be regarded in this case more of the nature of a susceptibility on the part of the patient, since in all diseases a more or less marked tendency toward cerebral derangement has been manifest.

The frequency of the localization of processes, due to infection with this organism, to the mouth and about the jaws, has already been noted by Karlinsky.[9] An explanation of this may be found in the fact that the micrococcus tetragenus is commonly found in the mouths of perfectly healthy individuals, as we have repeatedly observed.

[8] Apert: Soc. de Biologie, 1896.

[9] Karlinsky: Centralb. f. Bakteriologie, 1890, vii, p. 113.

EXPERIMENTS IN GASTRIC DIGESTION.*

A PRELIMINARY REPORT.

BY FENTON B. TURCK, M.D.
CHICAGO.

The experimental study of gastric digestion of proteids has been extensively made from a chemic standpoint. Test-tube digestion by the aid of ferments has created a large literature in this branch of physiologic chemistry. Kuhne and Chittenden's classsification of digestive products or Neumeister's nomenclature are most generally adopted, and in the absence of a knowledge of the albumin molecule, serve at least for a temporary classification. Kossel's work has not led to any more definite conclusion and it may be stated that the slight differences found in the chemic reaction or the physical properties of the albumoses have not been so characteristic as to allow these compounds to be regarded as separate bodies.

The object of digestion appears to be to reduce the food to such a condition that the cells lining the walls of the intestine may take it up, change and transfer it to the blood in the form of circulating albumins. This process is very much influenced by certain mechanic or motor functions of the gastro-intestinal tract. If this function of motility is hindered or obstructed the process of digestion is very much retarded or ceases altogether.

The methods of investigation which the author has the honor of presenting before this association have for their object the observation of the influence of mechanic or motor effects on the process of gastric digestion by the use of artificially devised stomachs, made from rubber of different degrees of elasticity. These artificial stomachs are caused to imitate in some degree the movements of the normal stomach contents, the churning process by which the food is forced from one end of the stomach to the other and back again.

The artificial stomach apparatus consists of thin rubber bags suspended from an arm which moves in a half circle, so that the contents of the bags are thrown from one end to the other. These bags are placed in an incubator at the usual temperature. When thick bags, with strong elastic resistance are employed, the process is very marked, but when thin rubber bags are used in which the resistance is very

*Read before the American Gastro-Enterological Association, May, '99.

slight, the bag stretches or dilates and the contents gravitate to the bottom of the sacculated portion which hangs like a hammock. Consequently the contents are not so much disturbed by each movement of the arm or beam from which the bag is suspended and the mechanic part of the digestion is rendered less active.

The mechanism by which the bags are made to move is placed in the ordinary incubator, in which the usual temperature is maintained. In the experiments, an opening is made in the back of the incubator and through this a shaft is passed attached to a wheel which is connected on its eccentric with the shaft running to the beam. The shaft is actuated by a small electric motor.

As before stated, the bags are made of rubber possessing different degrees of thickness and consequently elasticity. Some of the bags are divided into chambers or compartments—a duodenal portion and a gastric portion—by a small constricting ring through which fluids, but not solids, can pass. One chamber is intended to represent the gastric portion and the other the duodenal portion. In the latter a small lead ball is placed which acts as a ball-valve and is so arranged as to allow the escape of a part of the fluid products of proteolysis at each movement or half rotation of the beam and thus relieve the contents of the stomach-bag of the excess of peptones which would otherwise accumulate and might retard, or put a stop to, the digestive process. As the process of digestion thus progresses, small quantities of HCl and pepsin are allowed to flow at intervals from a bag reservoir into the bag which contains the food undergoing digestion, thus simulating as much as possible the secretion of the gastric juice.

Chopped meat, either cooked or raw, is weighed and placed in the bag, to be digested. This is mixed with a small quantity of dilute hydrochloric acid and pepsin, also weighed. Sometimes eggs are added, either boiled or raw, and the weight recorded. The bag is then placed in the incubator. After a period of digestion has elapsed the fluid matters are strained off and the solids remaining are weighed to determine the amount of the mass that has undergone digestion.

It is more practical to estimate the residue of undigested food than to attempt to estimate the amount of the albumoses formed. For instance, a known quantity of egg-albumin was placed in the bag and after experimental digestion, the coagulated residue was estimated. When using chopped meat the advantage gained by the ease with which the remainder or residuum can be observed is plainly to be seen, and especially so when the microscope is used to demonstrate the condition of the muscle fibers.

Bag A consists of: 1. A gastric apartment or cavity for the introduction of the chopped meat, eggs, broth or other food substances to be used in the experiment. 2. A secretory chamber containing an amount of dilute HCl and pepsin estimated in accordance with the weight of the food to be digested. 3. Duodenal or intestinal chamber. The material of which the bag is composed is of such thickness that it will sustain a given weight of from 200 to 500 grams of food, that is, meat and water. This portion is marked A 1.

Bag A 2 is arranged similarly to bag A 1, but the walls of the bag are thinner and therefore less resistant to the weight of its contents. As will be seen, the movements are not so great nor are the contents so thoroughly acted on by the energy of its movements, and consequently less commotion or churning is observed in this bag than in bag A 1. As a result the process of digestion is retarded in the second bag and a greater residuum of undigested proteid is observed.

Bag B 1 contains no outlet for the escape of the products of digestion from the albumoses and peptones, but the HCl and pepsin are allowed to pass into the gastric cavity at regular intervals.

Bag B 2 is similar to bag B 1, excepting that the walls are thinner and resemble in distensibility those of bag A 2.

As there is no provision for the escape of the fluid or peptones formed, and as the artificial gastric juice is added, the combined weight of the latter and the food causes the bag to become more and more sacculated. The excursion of the food from one end of the bag to the other, which occurs in the thicker bag, is thus prevented and retarded or diminished digestion results.

A marked difference is observed in the mechanic effects, not only as regards the results of the more intimate relation between the ferments, HCl and food particles brought about in the mixing process, but also as regards the actual friction between food particles which causes them to be more readily separated, more finely divided and more easily acted upon by the ferments.

I have, by means of the motion alone, without the use of any ferments, reduced the food-stuffs to a condition resembling pulpy chyme ready for intestinal digestion, and on the addition of hard, coarse particles, such as bran, to this mass, the process of digestion was much accelerated. I have already called attention to this fact in a previous communication.

The following series of experiments has been, and is still being, carried out by the writer to observe the mechanic effects of motion alone on the food contents of these improvised stomachs.

Series 1, in which bag A 1 was used, had for its purpose the creation of a standard degree of digestion which was necessarily arbitrary, although it conformed as nearly as possible to the natural conditions.

In the creation of this standard the chief considerations observed in bag A 1 were the following: 1. Character of food. 2. Water. 3. HCl and pepsin. 4. Weight and bulk. 5. Resistance of bag. 6. Number of movements in a given time. 7. Time required for digestion. 8. Character of the residuum of undigested food, weight, bulk, appearance, etc. 9. Observation of the products of digestion. 10. Chemic analysis. 11. Toxicity when injected into animals.

Series 2 was carried out in a similar manner to Series 1, but much thinner bags were used, similar to bag A 2. As this bag had less resistant walls, the mass was not thrown from end to end of the bag, and the elasticity of this thinner bag was greater and the energy exerted upon its contents consequently less than in the case of bag A 1. The food mass in bag A 2 was therefore not subjected to as great mechanic disturbance, churning, sub-division, and the like, as was the contents of bag A 1. The results of this series of experiments demonstrate that a longer time was required for the digestive process, and that a greater amount of residuum remained thereafter.

Series 3 was intended to determine the effects of motion on food-stuffs without the addition of HCl or ferments. In this series the reduction of the food to a soft, pulpy mass depended exclusively on the sol-

vent action of the warm fluid, and on the effect of motion and consequent friction on the particles of food. The time required for this reduction depended on the nature of the food and the fineness of division of the food particles used in the experiment. It was especially noteworthy that when large particles, 3 to 5 c.c. in weight, were used and kept in a quiescent state, the particles remained intact, but were swollen and slightly softened, and consequently rather larger than before. If motion was kept up for the same length of time (six to ten hours), the particles were reduced to a smaller size and the mass assumed a pulpy consistency resembling chyme.

In Series 4, bags were employed which were made from parchment instead of rubber. Proteids and ferments were placed in these bags, which were kept in motion under running water at the regular temperature. For these experiments a water-tight tank was used which contained two large wheels, the axles of which passed through the sides of the tank. The bags were suspended from the circumference of the wheel to the axle, so that with each revolution the contents of the bag was thrown from one end to the other. The rate of digestion was not materially increased through the action of dialysis of the peptones.

In all the foregoing experiments, carbohydrates and proteids were used both together and separately, and it was found that the degree of motion, as well as the character of the motion, produced marked increase in the products of artificial digestion, both as to the chemic products and the physical appearance. The influence of motion on digestion is a most interesting fact and one that would appear to be an all-important factor in the study of digestive processes, both experimentally and clinically.

In Series 5 experiments were made with a method of motion intended to simulate the contraction of the pyloric end of the stomach by which the stomach contents are forced back toward the cardiac end of this organ. By the repetition of this process the contents are churned and reduced to a substance resembling chyme. The apparatus in this series of experiments consists of rubber bags placed on an incline. The lower end of the bag, corresponding with the pyloric end of the stomach, was compressed, forcing the contents into the upper portion of the bag, which corresponds to the cardiac end of the stomach. This distends the upper portion of the bag and on the release of the pressure the contents descend by gravity to the lower or pyloric end. This process was repeated until the stomach contents had been thoroughly mixed and churned.

However valuable the observation of artificial gastric digestion, especially the purely physical processes may be, the researches on animals must necessarily be of greater importance. The observations of Cahn and Von Mering have added much to our present knowledge, but these observers neglected to investigate the motility of the stomach and conditions under which mixed foods, consisting of liquids and solids, are mixed, churned and forced out of the stomach.

It is true that Schuele[1] made some investigations in this direction, but in his experiments on dogs a duodenal fistula was formed and the cardia was temporarily and partially closed by an inflated rubber bag.

The writer has made experiments on the stomachs of dogs by isolating the stomach suspended in the abdominal cavity. A loop of jejunum was first united by an anastomosis with the cardia and the stomach closed below this point after curettage of the mucous membrane. The walls of the stomach were then sutured together. A duodeno-jejunostomy was next made to direct the flow of the biliary and pancreatic secretion below the loop. The abdomen was then closed and two weeks later a duodenal fistula was made at the pylorus, closing off the pyloric end of the duodenum. The stomach was thus switched off completely from the intestinal tract, but the blood and nerve supply was not interfered with.

The animal was then fed for a month, the food, instead of passing into the stomach, going directly into the jejunum The operation for this purpose would better be performed in two stages, because experience has demonstrated that when the operation was completed at one sitting the animals invariably died from shock soon after.

The stomach is then used for observation of the mechanic as well as the proteolytic action and bacteriologic observations also made on its contents. After the second week it was found that the stomach resumed its functions, but to a lesser degree.

It is the writer's intention to report these experiments later on, as well as to give a more detailed description of the results thus obtained from the study of artificial digestion, together with other observations which he hopes to present in the near future.

[1] Zeits. f. Klin. Med., xxviii, p. 87.

THE DIPHTHERIA BACILLUS.*

ITS PERSISTENCE IN MOUTHS OF CONVALESCENTS.

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MADISON, WIS.

Since the introduction of more thorough and scientific methods for the diagnosis of diphtheria produced by the inroads of the Klebs-Loeffler organism, it has been known that this germ often persisted in the throats of convalescents for considerable periods of time. The cases which I have to offer here are not markedly peculiar, except that they show a persistence somewhat prolonged, although there are a considerable number of cases in which the time period has been found to be longer than in these cases. Another point of interest is from the fact that frequent cultures were taken, and also the virulence of the disease germ determined after the recovery of the case.

The cases reported are taken from some of the control work that is carried on in my laboratory, under my direction, by my assistants, Mr. Frost and Mr. Bassett.

HISTORY OF THREE CASES OF BACTERIOLOGICALLY CONTROLLED DIPHTHERIA.

Case 1.—R. J., Madison, male, 8 years of age, was taken sick Nov. 27, 1897; diagnosed, clinically, as diphtheria; antitoxin administered November 28; rather mild type of the disease. After application of antitoxin, the case at once improved.

November 30, nearly pure culture of Klebs-Loeffler bacillus found in swab from the throat by means of Loeffler's serum mixture.

December 4, mixed culture developed from swab.

December 15, typic Klebs Loeffler bacillus found; quarantine raised by city health department and house disinfected with formaldehyde.

December 17, few organisms found.

December 21, diphtheria bacillus found on two different serum cultures.

December 22, ditto.

December 29, ditto.

* Read before the Central Wisconsin Medical Society, March 29, 1899.

December 31, ditto.
Jan. 6, 1898, few diphtheria organisms found.
January 8, culture failed to show growth of diphtheria bacillus.
January 13, diphtheria organisms quite plentiful.
January 20, organism again found.
January 21, few diphtheria bacilli mixed with pus cocci; guinea-pig inoculated with 0.7 c.c. of twenty-four-hour-old culture in glycerin broth; died in thirty six hours; characteristic lesions noted, and organism isolated from point of inoculation.
February 11, found diphtheria colonies sparingly.
February 15, no diphtheria bacillus found.
February 27, diphtheria organism present.
March 1, ditto.
March 6, none found.
April 10, diphtheria bacillus present.
May 30, none found.
June 10, ditto.
June 15, ditto.

Antiseptic throat washes were used during treatment and convalescence, but in spite of this, virulent diphtheria organisms were found with only occasional failures, for four and one-half months after outbreak of the disease.

Case 2.—Mrs. J., aged 30 years, mother of Case 1, was taken with a headache on Dec. 25, 1897, and developed slight sore throat with scattered white patches in the same; no special cause for alarm, but diphtheria suspected on account of presence of other case four weeks before.
December 24, diphtheria bacilli demonstrated in abundance.
December 31, bacillus diphtheriæ readily demonstrated.
Jan. 6, 1898, white patches almost entirely disappeared; abundant growth of diphtheria organism on culture.
January 13, ditto on two different swabs.
January 28, very few present.
February 2, diphtheria bacillus very frequent.
February 11, sparingly present.
February 20, doubtful.
February 27, bacilli present.
March 1, ditto.
April 10, ditto.
May 30, absent.
June 10, ditto.

The organism was present three and one-half months after development of case, but case was not quarantined.

Case 3.—Miss P. G., Milwaukee, aged 24, was taken sick March 24, and confined to room for one day; early clinic diagnosis suspected diphtheria; this diagnosis later not confirmed; case not quarantined; bacteriologic examination made.
April 13, diphtheria bacilli numerous.
April 20, found in considerable numbers.
April 27, ditto.
May 2, ditto.
May 9, ditto.
May 16, guinea pig inoculated with 0.9 c.c. of fresh culture, the animal died in fifty-two hours; diphtheria bacillus isolated from point of inoculation.

In all of these cases it is easy to see how the disease might have been distributed to other persons if especial care had not been taken to prevent such dissemination. In case of the boy, his return to school after the usual period of convalescence would have given exceptionally favorable opportunity for the further spread of the disease among other school children. In the case of the two adults, the relative insusceptibility of the individual prevented the typic development of the disease, but the virulence of the disease germ was attested by animal experiments, and it is easy to see how the disease might have been unwittingly distributed by the convalescents long after every symptom of the disease had disappeared.

These cases are by no means exceptional. Corroborative evidence is constantly accumulating which indicates that the germ may persist in a virulent condition for many months after convalescence. Such cases undoubtedly explain how diphtheria sometimes breaks out in apparently a sporadic manner. The disease is simply sporadic because, at the time, we may not happen to have all the data at hand that would permit of the establishment of a causal relation between one case and another.

Another important lesson that such cases teach us is the value of a bacteriologic control of these matters. So long as we were forced to rely on merely clinic observation, so long mistakes in diagnosis were possible, but by means of the accurate scientific methods that have been inaugurated at the present time, it is now possible to determine the character of these various throat affections with accuracy, and at the same time trace them farther until the disease germ has been thoroughly and effectually eliminated.

It would be impossible to maintain a rigid quarantine for any such length of time as was covered by the above cases. But it is possible to determine the conditions as they actually exist from time to time, and if the disease germ persists for a long period, to use such precautions as will diminish the possibility of the spread of contagion.

AMPUTATION THROUGH HIP-JOINT.*

REPORT OF TWO SUCCESSFUL OPERATIONS BY WYETH'S BLOODLESS METHOD.

BY CHAS. G. LEVISON, M.D.
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SAN FRANCISCO, CAL.

The following is a report of two successful hip-joint amputations performed by the writer on the same morning, at the S. F. Polyclinic wards of the City and County Hospital.

John L., aged 40, married, a sailor, with no history of heredity nor syphilis, had suffered for the past three years from hip-joint disease, resulting in ankylosis of both hip- and knee-joints, and which had been treated by extension and various palliative measures during this time. The gluteal muscles were atrophied from disuse and the gluteal fold obliterated. There was 6 cm. of shortening. On Jan. 19, 1899, five or six incisions were made on the outer and inner side of the thigh and buttock, evacuating a great amount of pus which emanated from the hip-joint, which was resected two weeks later. At this time it was found that the acetabulum was badly diseased. The patient's condition was gradually getting worse; the sinuses showing no tendency to repair, together with the ankylosis of the knee-joint and the diseased acetabulum, made it imperative to do something to save the patient's life. He was so weak that he could not raise himself in bed and, as his leg had been useless to him for a number of months, amputation at the hip-joint was decided on, and was performed on March 16, by a modified Furneaux Jordan method, using Wyeth's method of hemostasis.

The temperature after the operation never went above 101. The sutures were removed on the eighth day, primary union taking place excepting in the track of the drainage-tube. At the present writing there is still an opening following the track of the drainage-tube, due to the diseased acetabulum. The muscles were badly distorted as a result of prolonged disease, accounting for the irregularly shaped stump as seen in the photograph.

* Read at the Twenty-ninth Annual Meeting of the Medical Society of the State of California, April, 1899.

The second amputation was done for a chronic osteomyelitis of the femur and tibia. George M., aged 23, single, a cook, gave a tuberculous history; grandmother died of tuberculosis; history of suffering from a stiff and painful knee for the past three and one-half years, which has gradually gotten worse. He had been admitted to the City and County Hospital on four different occasions, during which time palliative treatment had been resorted to. On December 1 resection of the joint was performed and it was found that the entire medullæ of the tibia and femur were diseased. These were curetted at the time of the resection, and a drainage-tube passed from the femur near the trochanter down to the tibia, the drainage-tube emerging from openings drilled through both bones. Primary union was obtained, but the track of the drainage-tubes showed no tendency to repair. There was repeated abscess formation, the tissues again becoming markedly indurated, necessitating a reopening of the joint, which presented evidence of a progressive disorganization extending down into the tibia and up into the femur. At this time the outer half of the tibia was removed and found filled with débris. The high temperature persisting, and knowing the condition of the femur, it was decided as the only remedy, to amputate the hip-joint.

The Furneaux Jordan operation was performed, the bone being sawed below the lesser trochanter, where the medulla at the point of section and extending to the head of the bone was found to be puriform. Exarticulation was made with comparative facility, being absolutely bloodless. Temperature was normal, never going above 100 after the operation. Primary union was obtained and sutures removed in eight days. The patients were out of bed on the twelfth day, and on the twenty-first day they were photographed standing on one leg. Wyeth's operation was quite satisfactory, the operation being practically bloodless.

Amputation at the hip-joint has always been considered one of the formidable operations in surgery, and the evolution of this operation up to the present period is most interesting. The first idea of this operation originated with Morand, who practiced it on the cadaver in 1738. In this he was supported by many men belonging to the French school, but it remained for Lacroix in 1748 to make the first hip-joint amputation in a case of ergot gangrene, and was merely the separation of devitalized tissue by scissors, proving fatal on the eleventh day.

In 1773 Perault[1] removed the thigh for traumatic gangrene resulting in recovery. In reality the birth of the hip-joint amputation was the result of the French Revolution, as in 1794 Blaudin performed the operation three times with one recovery. Larrey performed it seven times, all unsuccessful.

In 1815 Gutrie[2] reports one successful amputation at the hip for gunshot wound. The first successful operation in this country was made by Brashear, in 1806, in Kentucky, on a male of 17 years, in which he established a principle in hip-joint amputation since made use of in almost all operations at this region, viz., the incision extending from the greater trochanter, along the outer border of the bone and joining the circular incision below. The bleeding is controlled by a tourniquet, and the vessels are tied as the operation advances.

The Furneaux Jordan is but a modification of this operation. Dr. Mott[3] made the next successful operation of this kind in the United States, in 1824. Since that time the operation had been repeatedly made, but in recent years the mortality accompanying this operation has been very great. Ashurst[4] tabulated 633 cases with an average mortality of 64.1 per cent. at the very lowest calculation, so that any method that would tend to diminish hemorrhage, shock, and as a consequence, mortality, was to be hoped for.

In 1860 Pancoast, at the Pennsylvania Hospital, made a hip-joint amputation on a man 35 years of age, controlling the blood by means of a tourniquet, compressing the abdominal aorta below the umbilicus, this being the first time that the tourniquet was used for this operation. Lister, apparently without any knowledge of Pancoast's case, performed this operation soon after by aid of a similar tourniquet, with the same good result.

Dr. Frank Woodbury of Philadelphia compressed the common iliac artery with the fist inserted into the bowel.

Davy[5] advocated the use of a lever made of some smooth substance, eighteen to twenty-two inches in length, introduced into the rectum, and the common iliac artery compressed against the pelvic brim.

Jordon Lloyd[6], advocated a method of elastic compression, which has been adopted by English surgeons in general. Jacobson, in his operative surgery, speaks very strongly in favor of the Jordon Lloyd method, which consists of a stout rubber bandage two yards long, passed between the thigh and trunk, having its center between the anus and the tuberosity of the ischium. A rubber bandage of appropriate size is then laid over the termination of the external iliac artery, and the ends of the rubber bandage now being steadily and firmly drawn upward and outward to a point above the center of the iliac crest, sufficiently tight to stop all femoral pulsation, the first part of the bandage passing over the roller and running parallel with Poupart's ligament, the posterior part passing across the sacrosciatic notch and compressing the branches of the internal iliac. This requires a trusted assistant, as there is evidently a decided tendency to slip, for which the author makes considerable provision.

Trendenlenburg[7] advocates the use of a steel needle, 38 cm. long, 6 mm. broad, biconcave on cross-section, inserted just below the anterior iliac spine and carried in the direction of the perineum, passing between the neck of the femur and the vessels, and emerging on the inner side of the thigh near the perineal crease, then by means of a rubber ligature a figure-of-eight is formed around the skewer. The flap is then made, the vessels tied and the bone exarticulated. The needle is again introduced behind the bone, the rubber ligature is again applied, and the posterior flap completed.

In 1886, Muscroft[8] employed a similar method.

Myles of England[9] advised a steel skewer passed through the thigh, the point entering one inch below Poupart's ligament, going external to the femoral, and internal to the neck of the femur, emerging a little above the gluteal fold. A rubber cord formed the figure-of-eight; amputation and lateral flaps.

Heuter and Parker[10] made an incision below the anterior superior spine, prolonged downward to the intramuscular septum between the sartorious and rectus. Through this incision, the lower blade of a pair of curved clamp forceps are introduced under the vessels, and the upper blade makes compression against the vessels upon the skin from without.

Thomas[11] punctures the skin in two places, one immediately below Poupart's ligament, about one inch external to the pulse, and the other two inches to the inner side of the same, immediately below the pubic spine. An aneurysm needle, threaded double, is then passed through both openings, and their threads are then tied over a pad applied against the vessels. Thomas operated on three cases successfully in this way, and was well satisfied with his method of hemostasis.

Macewen[12] advocates compression of the abdominal aorta under the umbilicus, by means of the fist applied against the vertebral column through the abdominal wall, and states that he has used this method for over fifteen years in all operations requiring hemostasis, with gratifying results. The artery can also be commanded during the operation by manual compression of the femoral, or by securing the vessels before they are divided, as is recommended by Larrey, when making lateral flaps.

McBurney[13] advocates direct intra-abdominal finger compression of the common iliac artery, incising the abdominal wall as in his appendicitis operation, about one and one-half inches internal to the anterior superior spine, and the finger is introduced through this incision and compression made. He reports three cases operated on successfully. It remained for Wyeth to work out his new principle for bloodless amputation of both shoulders and hip-joints, which is posibly a modification of the Trendelenburg method. This was first applied by him in 1888[14] for sarcoma of the humerus. He conceived the idea of tissue transfixion by using steel mattress needles, with a rubber tourniquet, operating bloodlessly and successfully. In 1890, his first operation[15] at the hip-joint was made by this method, which established a new principle of hemostasis, since adopted by many surgeons, whereby the mortality, once so great, has been reduced from one of 64.1 per cent. to 15.9 per cent. reported from 69 cases tabulated by Wyeth[16]. He reports 69 cases performed by this method, with 11 deaths. Of the 11 fatal cases, 5 had suffered extensive injury with hemorrhage and were profoundly shocked from the putrefaction of one or both extremities, the factor in these cases being the hemorrhage prior to operation, no hemorrhage occurring during or subsequent to the operation, and in none the precautions of salt infusions or the intravenous injections of salt solution, strongly advocated by the author, had been resorted to. Two died from the shock, one twelve and the other twenty-two hours after the operation; one of sepsis twenty-six days after; one of shock twelve hours after, as a result of prolonged exhaustion from sepsis. Wyeth's own fatal case was due to some cause not readily accounted for. In the 40 cases of sarcoma operated on, there were 4 deaths, giving a mortality of 10 per cent. In 23 cases of bone disease, there were 3 deaths.

Erdman[17] states that from January, 1884, to January, 1894, there were 18 hip-joint amputations done in the New York hospitals, with 8 deaths, making a mortality of 44.4 per cent. Of these, 7 were done by Wyeth's method; all recovered, leaving 8 fatal cases out of 11 done by other methods, giving a mortality by other methods used of 72.7 per cent.

In the statistics which the writer has tabulated, there have been 28 cases collected since Wyeth's statistics, dating from 1896, with 3 deaths, giving a mortality of 10.7 per cent.; of these cases 16 were done by the Wyeth bloodless method, with 2 deaths, giving a mortality of 12.5 per cent. by this method.

The following is a list of hip-joint amputations, tabulated by the writer since Wyeth's statistics were published in the *Annals of Surgery* (xxv, 1897, 127), where he reports 69 cases, with a mortality of 15.9 per cent. The writer has collected 16 cases, which, when included with Wyeth's cases, give a combined mortality of 15.28 per cent. In the opinion of the writer, the mortality of the cases collected by him since 1896, operated on since the time when hypodermoclysis has been generally resorted to, shows that this precaution accounts for the diminished death-rate.

Thomas, Lancet, 1898, i, 1112: 3 cases, caused by sarcoma, femur osteomyelitis, fem. injury; own method; recovered.

Noble, *Annal. Surg.*, 1898, xxvii, 753: 1 case, boy, 21 years, osteosarcoma; Wyeth method; died from shock; 1 case, man, 26 years, tub. cox; Wyeth method; recovered; 1 case, man, 39 years, tub. cox; Wyeth method; recovered.

Brush, N. Y. Post-Grad., 1897, xii, 615: child, 11 years, sarc. fem.; Wyeth method; recovered.

Shears, *Clinique*, Chicago, 1897, xviii, 520: 1 case, hip-joint; Wyeth method; recovered.

Coley, *Annal. Surg.*, 1897, xxix, 110: 1 case, boy, 6 years, sarc. fem.; Wyeth method; recovered; 1 case, girl, 13 years, sarc. fem.; Wyeth method; recovered; 1 case, man, 49 years, sarc. fem.; Wyeth method; recovered.

McBurney, *Annal. Surg.*, 1897, xxviii, 129: 3 cases sarcoma · McBurney method; recovered.

Willy Meyer: 1 case; McBurney method; recovered.

Abbe: 1 case; McBurney method; recovered.

Briddon, *Annal. Surg.*, 1898, xxvii, 514: 1 case, boy, 15 years, sarc. fem.; Wyeth method; recovered; 1 case, man 33 years, tub. cox.; Wyeth method; recovered.

Sherman, *Pacific Med. Journal*, June, 1898, 362: 8 amputations, 4 tubercular cox., with 2 deaths; one died a few hours after, the other died of tuberculosis subsequently, and two living; 4 sarcoma, one died a few hours after the Wyeth operation, 1 lived thirteen weeks and died of septicemia, another lived a year, 1 well after eight years. Of Sherman's cases, 6 were done by the Wyeth method.

Levison: male, 40 years, tuber. cox.; Wyeth method; recovered.

Levison: male, 23 years, osteomyelitis; Wyeth method; recovered.

There have been many methods suggested for hip-

joint amputations. Farabœuf mentions that 45 operations have been devised, but there are but 3 or 4 that are now done, two in particular, both of these being mere modifications of the original operation, done by Dr. W. Brashear in 1806, the first and most generally recognized being the Furneaux Jordon method, which was first described by Furneaux Jordon of Birmingham in his "Surgical Inquiries," in 1880, and possessing the following advantages over the other methods:

1. By removing less of the body, the shock is correspondingly diminished.

2. Abundant room is afforded for compression of the common femoral, the gluteal and sciatic arteries remaining untouched.

3. Sepsis is averted, as the wound is quite remote from the anus, and hence more easily kept clean.

4. It produces a good stump, and at times permitting the use of an artificial limb, although the later advantage does not hold good in practice. In this operation the Jordon-Lloyd method of hemostasis is advised.

The second method, as advised by Wyeth, is a modification of the Furneaux Jordon method, and differing in that the stump is shorter, the section through the muscles being made at the level of the trochanter minor, the skin flap longer.

The last to be mentioned is that of transfixion, the great advantage of which is the rapidity with which it can be carried out. With three assistants, this operation can be made in twenty seconds, its disadvantages being the great wound surface resulting, and as a consequence imperfect drainage, and great tendency to bleeding, due to the oblique section of the thick muscles in this region.

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1. Sabatier: Medic. Oper., Vol. iv, p. 673, 1832. 2. Gatrie: Comments on Surg. of War of 1862, p. 77. 3. Mott's Edition of Velpeau's Surgery. 4. Internat. Ency. of Surg., Vol. i. 5. British Med. Jour., 1879, Vol. xi, p. 685. 6. Lancet, 1883, Vol. i, p. 1897. 7. Archiv. Klin. Chir., 1881, Vol. xxvi, p. 861. 8. Cincinnati Med. News, April, 1897. 9. British Med. Jour., Nov. 9, 1889. 10. Ibid., Jan. 19, 1889. 11. Lancet, Vol. i, p. 1112. 12. Annals of Surgery, 1894, Vol. i, p. 1. 13. Ibid., August, 1894, Vol. i, p. 181. 14. Ibid., 1897, Vol. xxv., p. 127. 15. Ibid. 16. Ibid. 17. Ibid., September, 1895.

Correspondence.

Sanitation the Keynote of the Berlin Congress.

PARIS, June 4, 1899.

To the Editor:—The recent international tuberculosis congress at Berlin, while it announced no discovery of new remedies, new therapeutic processes or new antagonists to the "white fiend," so called, was not without beneficial results in diverting attention from the quest of drugs and antitoxics to the bountiful provisions which nature herself offers the human race for its protection, and the separation, more or less complete, of the victims of their own imprudence or their culpable contamination by their fellows.

The belief that consumption is an inheritance from sinful ancestors to the third and fourth generation back, whom unhappily we can only curse and die, need no longer banish hope and hang like the pall of death over the young, so often exceptionally gifted. Hereditary predisposition can not be gainsaid, but the child of the tuberculous parent has a chance to reconstruct with fair promise of success the worm-eaten timbers of its father's house.

Nevertheless, consumption remains the disease most to be dreaded which afflicts humanity. It is a baneful blight, to be shunned with greater care than the maladies which offend sight and smell. It is breathed unconsciously into the lungs in crowded vehicles and apartments, and creeps beneath a lady's skirts which at the behest of fashion, sweep the dirty thoroughfares. Vanity, ignorance and indifference invite its entrance to live and grow, devour and destroy enfeebled and predisposed bodies—but even these may be saved, and the problem before the Berlin congress was to determine how.

It has been pretty well understood that the insidious bacillus can not be reached and destroyed by any fire-extinguisher process—through internal antitoxic medication or by antiseptic inhalation—but its habitat can be made untenable and the victim thus be indirectly rid of its unwelcome presence.

Hitherto this has only been sought to be accomplished by removal to the various health resorts in Europe and America, inaccessible to any but the wealthy, on account of distance and expense, and each of these has had enthusiastic advocates and each been able to boast of undoubted good accomplished and of lives spared for long years of health and happiness.

The Germans have been pioneers in the effort to establish asylums where even the poor may be received without having to go far from home or be subjected to expense for care and maintenance. Over fifty sanatoria for tuberculous patients have already been established in Germany, and as many more are in process of installation by the government and by private enterprise, where unknown and others are received, and with such satisfactory results that Fränkel, the father of the congress, Leyden, and other authorities on tuberculosis advise their multiplication all over the country. Altitude, hygrometric conditions and temperature are of less consequence than the absolute purity of the atmosphere, secured by secluded wooded sites, with exposure to sunlight and consequent comparative dryness of soil. Careful attention to diet, physical exercise, proper clothing and scrupulous cleanliness of body, bed and dress, are the means by which the *physical resistance* of the individual to bacillary invasion is increased. The mere removal from the overcrowded, unclean and ill-ventilated living, working and sleeping apartments hitherto occupied, with good food in abundance, exposure to sunlight and the isolation of the sick, are practically the only therapeutic agents on which to depend.

If this congress shall accomplish nothing else, it will have done well if it awaken attention to the serious menace to the public health from tuberculosis and the necessity for sanitary provision against its spread. The man who expectorates in a vehicle or public resort does not merely violate public decency, but commits an offense for which he should be punished. Health-board warnings and placards in street cars avail nothing if not enforced. So long as women sweep infected sputa with their dresses, they will suffer with tubercular disease of their genital organs and communicate it; so long as the dust of dried sputa is disseminated and inhaled in public vehicles, every passenger is endangered. Men and women, especially women, are urged to form associations for the rigorous suppression of indiscriminate spitting, and boards of health will do better service to the community if they direct all their efforts toward the prevention of tuberculosis, and leave smallpox and yellow fever to take care of themselves. The segregation of those already affected in local sanatoria, as advocated at the Berlin congress, will ultimately check the progress of this frightful scourge, and add immensely to the sum total of human happiness.

A. L. G.

A Protest.

CLEVELAND, OHIO, June 16, 1899.

To the Editor:—I am informed by a correspondent in Iowa that my name is being used in a circular concerning a quack cancer cure called "Vitalia." Any such use of my name is absolutely unauthorized and an outrage on common business honesty. I presume legal redress is impossible or the indecency would not have been committed. Would it be asking too much of you to publish my protest? Not perhaps that many may be misled by my name, but to put others on their guard who are no doubt being similarly victimized. The animus of the thing is probably an attempt at revenge for an editorial criticism which I wrote in the *Cleveland Journal of Medicine* a year or more ago, warning the profession of the methods of the concern which exploits this "cure."

Very respectfully, P. MAXWELL FOSHAY, M.D.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medicine (Detroit), June.

1.—*Treatment of Infected Wounds. D. N. Eisendrath.
2.—*Case of Paget's Disease (Malignant Papillary Dermatitis). Maximilian Herzog.
3.—*Clinical Lecture in Neurology. Harold N. Moyer.
4.—Two Cases of Peliosis Rheumatica. Chas. J. Aldrich.
5.—*Blood Examinations in the Diagnosis, Prognosis and Treatment of Pneumonia. Hamilton Fish.
6.—*What Became of the Dauphin Louis XVII?—A Study in Dental Jurisprudence. E. S. Talbot.
7.—*Etiology of Scarlatina. W. J. Class.

Medical Standard and North American Practitioner (Chicago), June.

8.—*Surgical Treatment of Nephritis or Bright's Disease. Alexander Hugh Ferguson.
9.—*Laryngologic Clinic. Wm. L. Ballenger.
10.—*Technic of Ether and Chloroform Anesthesia. Aime Paul Heineck.
11.—*"Local Treatment" in Gynecology. Palmer Findley.
12.—*Strophanthus Hispidus, D. C. John U. Lloyd.

Cleveland Medical Gazette, May.

13.—*Milk as a Carrier of Infection. C. O. Probst.
14.—*Report of a Triplet Birth, One Single Child and a Well-defined Case of Thoraco-Gastro-Didymus. G. W. Thompson.

Memphis Lancet, June.

15.—*Attack of Diphtheria on Ninety-sixth Day After Administration of Immunizing Dose of Antitoxin. John M. Maury.
16.—"Steep Curves" of Typhoid Fever—Nephritis—Cardiac Valvular Disease—Chronic Appendicitis—Rash of Typhoid Fever—Croupous Pneumonia. H. A. Hare.
17.—Herpes Zoster. John Edwin Hays.

Memphis Medical Monthly, June.

18.—*Melancholia. Barton W. Stone.
19.—Motor and Sensory Areas of Brain and Physiologic Functions. D. R. Neil.
20.—*Sporadic Cretinism—Report of a Case. St. Cloud Cooper.
21.—*Case of Aphasia Due to Traumatism. The Medulla as a Speech Center. W. F. Rochelle.
22.—*Report of Case of Cerebral Meningitis, Manifesting Extraordinarily High Temperature. R. B. Christian.

Medical Dial (Minneapolis), June.

23.—*Need of Sanitoria for Treatment of Pulmonary Tuberculosis. J. H. Stuart.
24.—Description of Climate of New Mexico. Francis Crosson.
25.—*Alcoholism and Alcohol. G. D. Haggard.
26.—*Electricity in the Treatment of Diseases of Digestive System. Lafayette W. Case.

Medical Times and Register (Philadelphia), June.

27.—*Children with Abnormalities, Based on Reports of Teachers. Arthur MacDonald.
28.—My Experience with Somatose in Pediatric Practice. J. L. Landau.

Texas Medical Journal (Austin), June.

29.—*Photo-Micrography as Related to Medical Scientific Research. Rudolph Menger.
30.—*Relation of Physicians to Public—Medical Jurisprudence. R. L. Henry.
31.—*Complete Paralysis—Sensation and Motion—Due to Malarial Toxemia; Report of a Case; Recovery. F. R. Collard.

North American Journal of Diagnosis (St. Louis), June.

32.—*Treatment of Secondary Anemia. Milton F. Creel.
33.—Notes on Ophthalmic Bacteriology, Partly with Reference to Asepsis. H. Gifford.

Canadian Practitioner and Review (Toronto), June.

34.—*Recent Contributions to Theories of Immunity. Wm. H. Welch.
35.—Coccidiosis in Liver of Rabbit. Drs. H. B. Anderson and Page.

Fort Wayne Medical Journal-Magazine, May.

36.—Auto-Intoxication. J. J. Reynolds.
37.—The Country Doctor. W. T. Bertrand.

Northwestern Lancet (St. Paul), June 1.

38.—*Pure Drinking Water. Tomus Thams.
39.—Gonorrhea in Women. W. H. Bodenstab.
40.—Observations in Anesthesia. Alice Magaw.
41.—*Respective Indications for Anterior Abdominal and Vaginal Incisions for Pelvic Disease. A. W. Abbott.

Virginia Medical Semi-Monthly (Richmond), June 9.

42.—*Some Dropsies and Their Management. J. C. Wilson.
43.—*Diagnosis of Bullet Wounds of Intestines. Hugh M. Taylor.
44.—*Antiseptic and Eliminative Treatment of Typhoid Fever. T. Virgil Hubbard.
45.—*Peritonitis from Clinic Standpoint. August Schachner.
46.—Specific Urethritis. John W. Shaw.
47.—*Disinfection of Railway-Coaches and Street-Cars Operating in Ohio. Frank Warner.
48.—Abdominal Surgery, Past and Present, with Cases. F. M. Brantley.
49.—*Some Points in Operating for Abscess of Liver. B. E. Hadra.
50.—*National Formulary. M. D. Hoge, Jr.

Medical Age (Detroit, Mich.), June 10.

51.—*Problem of Infant Nutrition. C. G. Jennings.
52.—*Trephining for Traumatic Epilepsy. W. O. Roberts.
53.—*Men and Their Ages. Robert Bruce.

Philadelphia Medical Journal, June 17.

54.—*Traumatic Rupture of Urethra. Emanuel J. Senn.
55.—*Sanitary Lessons of the War (Concluded). Geo. M. Sternberg.
56.—*Report of Case of Combined Typhoid and Quartan Malarial Fevers. Charles F. Craig.
57.—*Hypotonia. Frankel's Symptom. H. C. Wood.
58.—*Case of Smallpox in an 8-year-old Boy, showing Development and Diagnosis in First Stages of Disease. William Jacobsohn.
59.—Modified Cow's Milk for Infant Feeding. Edmund D. Chesebro.
60.—Ten Commandments of Apollo. G. W. Wagoner.
61.—*Case of Diabetes Mellitus. J. Franklin Dunseith.

New York Medical Journal, June 17.

62.—*Some Remarks on Obstetrics in Private Practice. J. Clifton Edgar.
63.—*Quantitative Determination of Albumin in Urine. Charles W. Purdy.
64.—Severe Case of Puerperal Sepsis Treated by Antistreptococcus Serum and Unguentum Credé. Recovery. James D. Voorhees.
65.—*Use of Holocain as Local Anesthetic in Eye, Ear, Nose and Throat Operations. John Guttmann.
66.—*On a Compound Microscope for Viewing the Eye. Lucien Howe.
67.—*State of Gastric Secretions in Organic Disease of the Heart. Frank H. Murdoch.

Medical News (N. Y.), June 17.

68.—*Prognosis in Chronic Valvular Affections of Heart. N. S. Davis, Jr.
69.—*Management of Typhoid Fever in a Country Practice. W. J. J. Paris.
70.—*Dietetic Management of Some Diseases of Infancy. Charles Gilmore Kerley.
71.—Empyema of Pleural Cavity. W. J. Breeding.
72.—Bullet Wound of Liver and Lung; Operation; Recovery. P. R. Bolton.

Medical Record (N. Y.), June 17.

73.—*Summer Complaint in Children. Louis Fischer.
74.—*Reflections on Nosology of So-called Functional Diseases. Joseph Collins and Joseph Fraenkel.
75.—*Traumatic Ruptures of Heart, with Case. Richard Cole Newton.
76.—Congenital Cataract in Rabbit; a Histologic Study. T. de Obarrio.

Cincinnati Lancet-Clinic, June 17.

77.—*Aneurysm of Aorta. G. A. Fackler.
78.—*Incontinence of Feces L. J. Krouse.

Maryland Medical Journal (Baltimore), June 17.

79.—*Cancer as a Parasitic Disease. Roswell Park.
80.—Pathology and Etiology of Skin Diseases. George C. Clark.
81.—*Simulated Blindness and Its Detection. Edward J. Bernstein.

1.—Treatment of Infected Wounds.—Eisendrath describes the types of infection of wounds of the various staphylococci, streptococci and bacilli, the rapidity with which infection seems to progress and the forms in which it manifests itself: 1, the circumscribed, as seen in folliculitis, carbuncles, boils, felons, or an acute abscess; 2, phlegmonous inflammation with suppuration: 3, progressive, purulent infiltration. As regards the first types, the difference is only in their extent and he recommends in folliculitis a simple antiseptic dressing after extraction of the hair, recommending what is approximately a Thiersch solution of salicylic acid and alcohol as a lotion. He advocates the use of hot wet dressings for all forms of local infection, and employs them almost as a routine practice. In furuncle, if the application of ice or repeated hot wet dressings does not cause resolution, he advises an early incision, preferably a crucial one, in order to better pack the wound. This can be done painlessly by the use of cocain and it is preferable to freezing the tissues or using Schleich solution. Any kind of gauze may be used for packing, and after the operation splints should be used to keep the parts at rest. In carbuncle the treatment is practically the same, but in addition injections of the surrounding tissues with 5 per cent. carbolic solution will frequently check its progress. In paronychia, which always starts in the connective tissues, if the infection passes under the nail, lifting it up, the latter should at once be removed, partially or wholly, to prevent the possibility of general sepsis, which has often occurred. He calls attention to the difference of anatomic arrangement as affecting inflammation of the dorsal or palmar surfaces, and advises, in infection of the front of the fingers, a longitudinal incision to either side of the tendon and the wound kept open with gauze packing. If the periosteum is affected, cut down to it.

In the second variety of infection the same general principles hold true. The treatment should be vigorous and prompt. Small incisions are of no use and long ones, parallel if necessary, should be made, exposing the entire area involved. necrotic tissues should be removed and tendon sheaths and bursæ widely opened. If joints have been invaded no time should be lost in using drainage. The wounds should be irrigated with strong (1:1000) solution of bichlorid or peroxid of hydrogen, and the infected tissues touched with a 10 per cent. solution of zinc chlorid, and packed in every direction with iodoform or even plain gauze and a dry dressing applied for a few hours until the greater part of the parenchymatous oozing, which may be very profuse, has ceased. In compound fractures, splints or fenestrated casts should be used. The packing drains away the secretions and aids nature. Within a few hours a wet dressing, constant immersions or irrigation of the parts with some mild antiseptic solution is desirable. The wound should be dressed once or twice daily, irrigated with a 1:4000 bichlorid, lactate of silver or peroxid solution, thoroughly repacked and a wet dressing applied. For the general condition, quinin, whisky and strychnin in liberal doses can be given. Eisendrath believes in the value of antistreptococcus serum in these cases, especially if the symptoms of general sepsis appear.

The third variety of infection is simply an advanced stage of the preceding, attended with extensive tissue necrosis. Large incisions, extending to the fascia, must be made, connecting with each other or with smaller intervening counter-drain

openings. Drainage-tubes or gauze drainage may be used with wet dressings. The rest of the treatment is the same as the preceding variety. The general rule of treatment of infected wounds should be early and not too small incisions, disinfection and packing of wounds, wet dressing and systemic treatment.

2.—**Paget's Disease.**—Herzog reports a case that occurred in the practice of Dr. Van Hook, and elaborately describes and illustrates the microscopic findings.

3.—**Hysteria and Graves' Disease.**—Moyer's lecture is on cases of hysteria and Graves' disease.

5.—**Blood Examinations in Pneumonia.**—In this paper Fish maintains that we have fairly accurate diagnostic and prognostic indications in the blood in cases of pneumonia, and he believes that in it will also be found therapeutic indications. In true pneumonia the specific gravity is increased, the alkalinity decreased, poikilocytosis exists and leucocytosis of the polyneuclear neutrophiles, and sometimes the pneumococci are found. The prognosis is largely dependent on the number of leucocytes, and in the treatment of this disease we should aim to hasten the crisis and increase the number and power of the leucocytes, and if possible, neutralize the pneumonic toxins. He believes that for this latter purpose bleeding will be found of service, if we also use normal salt injections, and that the practice of former years, when bleeding was common in this disease, has some real therapeutic value. Leucocytes can be increased by hypodermic injections of nuclein and this will only be of value when there is partial neutralization of toxins and approximately normal blood reaction. Frequent examinations will indicate the dose and frequency of the nuclein injections and the neutralizing process in the blood. It is desirable to have the liver acting in good order on account of its bactericidal action, and purgation with a mercurial is advisable, also frequently repeated doses of saline cathartics. Internal medication, directed toward the inflammation of the lung, with ammonia preparations, supporting treatment, counterirritants, and cold baths may be used as indicated.

6.—**The Dauphin Louis XVII.**—Talbot goes over the historic facts in regard to the reported death and burial of the Dauphin of France, and concludes that the remains found and said to be of that individual indicate a much older person, especially according to the dentition. He thinks that what intrinsic evidence there is appears rather to support the claims of the pretender Richemont.

7.—See JOURNAL, May 20, ¶ 114, p. 1108.

8.—**Bright's Disease.**—Noticing the fact that surgical treatment of nephritis is rarely mentioned in the text-books, Ferguson maintains that while this is so, it has an important surgical relation and, considering the hopelessness of its prognosis under purely medical treatment, he thinks it all the more necessary to suggest these facts. In times past many surgeons have operated on the kidneys for stone and found none existing, and their post-operative diagnosis was generally put down as nephralgia. Many observant surgeons, however, have noticed that the symptoms of albuminuria, hematuria and local tenderness and pain often subsided after the operation. These cases are probably unrecognized nephritis thus benefited by operation. In cases of floating kidney, operation has sometimes relieved the mobility, while pain and tenderness have continued, and these cases are usually the ones in which the capsule was not opened or the kidney explored. In his mind there is no doubt that many of these cases are unrecognized nephritis. Ferguson then notices Reginald Harrison's suggestion of puncture and incision of the renal capsules to relieve tension, and reports two cases in which he himself has operated by opening the kidney, exploring its substance with a needle, removing specimens for microscopic examination and diagnosis, with the result of complete relief of the more troublesome symptoms. In the first case the diagnosis was stone, but none was discovered. The pathologic diagnosis made in Klebs' laboratory was interstitial nephritis with cloudy swelling. The second case was a similar one except that the diagnosis of stone was not made, and the results were similar. He thinks the operation of exploration of the kidney is indicated when the following symptoms exist: persistent pain, persistent tenderness, persistent hematuria, albuminuria and pyuria, persistent troublesome abnormal mobility, and persistent enlargement. He believes that the surgery of the kidneys for this condition has a future, though it is as yet too early to speak positively as to the ultimate results in all cases of exploration or operation in nephritis.

9.—**Syphilitic Ozena.**—Ballenger describes four cases, the last of which is of some interest on account of its being a case of syphilitic ozena in a girl aged 4 months. He sums up the essential facts concerning this condition, as follows: Syphilis in a parent, even when carefully treated, may be transmitted to the offspring for three or four years, and even longer, in some instances. The first signs usually appear before the second month after birth—the earlier the more destructive. The infant's tissues do not seem to have the power to resist the poison. The later it appears the more favorable the prognosis. The first signs are those of an acute intractable coryza, which, if not syphilitic, is suspicious of a syphilitic process. Congenital syphilis runs a much more rapid course than acquired syphilis in adults, and if not checked, the bridge of the nose will become depressed. The treatment in the early stages should be local and constitutional: local treatment to insure the patency of the nostrils, as otherwise the child is unable to nurse. Bosworth recommends an 0.5 per cent. solution of cocain sprayed into the nostrils. In later stages mixed treatment should be used. As the skin is very sensitive, a simple ointment should be applied.

10.—Heineck's paper will be noticed when completed.

11.—**Treatment in Gynecology.**—Findley reviews the subject of topic applications in gynecology, which constitute in a large measure the practice in this specialty by the general practitioner. He sums up as follows: The vast majority of pelvic lesions commonly treated by local applications belong either to the domain of surgery or to internal medicine. Disorders to the pelvic viscera as the result of obstruction to the general circulation; primary and secondary anemias; chronic constipation; the uric acid diathesis; gout, rheumatism, syphilis and other constitutional diseases; passive engorgement of the pelvic and abdominal viscera from whatever cause; together with errors in dress, food and exercise, are to be remedied by directing the treatment to the predisposing causes, while local measures can only serve as a complement to the general treatment, and are often unnecessary and may do harm. Many of the cases that recover under local treatment do so regardless of local measures, or by virtue of the additional general treatment. The indiscriminate and wholesale use of tampons and the routine practice of intrauterine applications of caustics are productive of great evil and should be condemned. Douches should be given in the dorsal position; should be as warm as the patient will permit, and four to six gallons of sterile or antiseptic water should be given two to four times daily. Pelvic massage deserves a prominent place in gynecologic practice. It is imperative that there be an absolute diagnosis in order that the indications and contraindications be clearly defined.

12.—**Strophanthus Hispidus.**—Lloyd illustrates this plant and describes in full its toxic and physiologic effects.

13.—**Milk as a Carrier of Infection.**—In this paper the secretary of the Ohio State Board of Health calls attention to methods by which milk may be a spreader of infection. It is an admirable vehicle for many germs, especially diphtheria and typhoid. Any water-borne disease can readily be carried by milk, the more so since water is the most common fraudulent diluent of milk. Even washing the milk cans with polluted water may infect the milk. It may be kept in the house where a person is ill and be infected by the atmosphere. Milk tickets may carry disease, as they are often dirty. It would be a good rule to have them always fresh and destroyed after use. Milk bottles may be transferred from house to house and carry infection. The question as to whether tuberculosis can be conveyed by milk of tuberculous cows if the udders are not affected was, he claims, definitely settled by the Massachusetts Society for Promoting Agriculture. Infection, however, is much more frequent when the udder is involved. The only way to control the conveying of disease in milk is by a rigid enforcement of the permit system and inspection of dairies. The measures needed for protection are summed up by him as: frequent inspection, license to sell, remodeling of cow stables and hearty co-operation of the dairyman in his own interest.

14.—**Triplet Birth.**—Thompson reports a case of triplets, one of which was a well-marked case of thoracogastrodidymus, the children being joined together on the anterior surface of the trunk. The single child was born dead; the other two died within twelve minutes after birth. The mother, though for a while in a critic condition, recovered satisfactorily. There was no rupture of the perineum.

15.—**Immunizing by Antitoxin.**—Maury briefly reports a case in which a child who had been thoroughly exposed to diphtheria was given 500 units of antitoxin as an immunizing dose. Diphtheria occurred ninety-six days later and was bacteriologically diagnosticated. It yielded readily to 2000 units in one injection.

18.—**Melancholia.**—Writing on this topic, Stone speaks of the

frequency of suicidal and homicidal tendencies, and advises paraldehyde as the least objectionable hypnotic, though he also recommends others, like trional, sulfonal, bromids, etc. Chloral is the most dangerous one. As regards medical treatment for the disease itself, he thinks thyroid extract takes first place and would give it in initial doses of 5 grains tentatively, increased to 20 or 30 grains twice a day, at breakfast and dinner, watching the effect on the heart.

20.—Sporadic Cretinism.—Cooper reports and illustrates a case of sporadic cretinism, successfully treated with 5 grain thyroid tablets, three times a day, subsequently reduced to one a day.

21.—Aphasia Due to Traumatism.—Rochelle reports a case of a man who was shot in the face one and one-half inches below the left eye, with a 38-caliber pistol at close range. He was suffering considerably but was able to walk home. Forty-eight hours after he was seized with hemiplegia and aphasia. These symptoms continued, the aphasia being of the motor type, and the pain sometimes very severe. By the X-ray the bullet was located at the junction of the atlas and basilar process about the center of the left anterolateral quadrant, and it was removed by operation. Around the bullet was a thickened cartilaginous appearing growth which the writer thought was producing pressure on the medulla. The operation relieved the convulsions, at least temporarily. He has had but one since he left and the hemiplegia was decidedly improved, but the aphasia remained. The author suggests that the trouble was located in the medulla, involving the nuclei of some of the cranial nerves connected with speech.

22.—Extraordinarily High Temperature.—Christian reports a case in a woman 28 years old, who was taken with cerebral meningitis on April 16, and in which for a period of more than ten days there was a most remarkable record of high temperature, the temperature in the axilla ranging as high as 118 in two days at times, at other times going down to nearly or quite normal. On April 17 it ranged, in the mouth, from 98.5 to 110; on April 20, from 110 to 114 in the axilla; April 21, 109.5 to 114 in the axilla; 22d, 101.8 to 114; 23d, 98.5 to 114; 24th, 98.5 to 114; 25th, 98.5 to 117; 26th, 98.5 to 118; 27th, 100 to 117; 28th, from 101.4 to 118. At that date she became unconscious and remained in a stupor until her death, May 10. The temperature did not again go above 103 until a few hours before death, when it rose to 107. Three thermometers were broken from the pressure of the mercury in taking these temperatures.

23.—Sanatoria for Tuberculosis.—Stewart's article is a plea for the establishment of sanatoria for consumptives, and he describes the successful ones existing in Europe, and their methods.

25.—Alcoholism and Alcohol.—Haggard gives a well-written article full of references and quotations in which he strongly advises against the use of alcohol.

26.—Electricity in Digestive Disorders.—Case describes his methods of treating gastric dilatation and similar conditions by the internal use of electricity carried through a long, flexible stomach tube, the external electrode being placed over the seventh cervical vertebra or over the subclavicular region. He uses thus, 3 to 5 milliampères of the galvanic current for three to five minutes. In some cases he uses the galvanic current for two or three minutes and follows it with a mild secondary faradic current for the same length of time, using the same electrode. In still other cases the sinusoidal current is used, which contracts muscular fibers without much pain. This internal treatment is given every second day, and on alternate days an external application is made, the positive pole at the back of the neck and the negative over the stomach. In many cases of vomiting which appears to be purely nervous, he finds advantage in the external use of electricity, a mild secondary current being preferable. In severe cases better results are sometimes obtained by the method first described. In many cases of indigestion the chief symptom is pain, and he usually employs the galvanic current with a pad over the affected part and a current of 5 to 20 milliampères of the positive for five to ten minutes. If the pain is confined to the liver region he often uses the interrupted galvanic current, negative over the liver, with the most satisfactory results. Obstinate constipation, so common in indigestion and other stomach troubles, is often greatly relieved by a sharp spray from a powerful static machine, or if greater stimulation is required, by sparks from the left iliac region. The spray is usually enough if used for five minutes daily. On several occasions he has found this method effective within a few minutes. While he has used other methods, he thinks this the preferable one.

27.—Children with Abnormalities.—MacDonald gives a statistic report of the results of investigation among the school children in Washington, D. C., with tabulated statements. He finds the most abnormalities, apparently, in boys between the ages of 10 and 13. The figures for girls are similar except that there is an apparent increase at the age of 16 or over. The abnormalities include sickliness, nervousness, defects in eyesight, hearing and speech, laziness and unruliness.

29.—Photo-Micrography.—After some general considerations and descriptions of methods, Menger reports a peculiar case of parasitic disease which he has not yet identified or been able to have identified by competent experts. It seems like a sort of scabies in some respects, but has some differences. His paper is illustrated with reproductions by photo-micrography.

30.—Physician and Public.—This article gives the views of a lawyer as to the medicolegal status of physicians. He thinks that every physician should study the laws of evidence, inform himself on medicolegal questions now arising and that he should be properly compensated for medicolegal work, though in Texas there is no statute providing for this. He points out that under common law professional secrets of physicians are not privileged, which is another matter to be regulated. He also gives his ideas as to medical registration, and thinks the conditions should be much more rigid than are those for admission to the bar.

31.—Complete Paralysis Due to Malaria.—Collard alludes to certain special conditions due to malaria, among which is acute mania, and describes a case in which a patient was apparently completely paralyzed both as to sensation and motion, the sphincter and bladder also being involved. He treated him with tonics, nux vomica, etc., and motion and sensation gradually returned, so that complete recovery ensued. He asks: "How is this paralysis to be explained and what pathologic condition is behind it?"

32.—Treatment of Secondary Anemia.—Creel's paper is devoted to showing the supposed value of ferro-somatose for this and similar conditions.

34.—Theories of Immunity.—Welch gives a very clear though brief statement of the principal facts and theories of immunity at the present day. His views as to the value of the anti-streptococcic serum are not especially favorable, as he holds that the serums from the different specific forms are not well defined, and therefore it is not time for its general introduction into practice.

38.—Pure Drinking Water.—Thams describes the condition as to drinking water in North Dakota, and points out the very common methods of contamination, both in towns and rural districts. He also gives the results of the analysis of some of the water from the surface wells and artesian borings, showing the proportion of solids contained. Both are overloaded with mineral salts, and he finds, as a result of his routine examination, that the urine of his office patients averages high in specific gravity and is very often alkaline or neutral in reaction. This means, he thinks, that the kidneys of all these patients are overtaxed, and he lays this to the high percentage of solids in the water drank. To verify his findings he has obtained the results of life insurance examinations of one of his colleagues and finds them to agree very closely with his own. In order to furnish pure drinking water free from these excesses of salts, he has devised tablets which may be added to distilled water to give it the proper proportions and make it a safe and healthy drink. These tablets contain each ¼ gr. sodium sulphate, ½ gr. sodium chlorate, ¾ gr. sodium carbonate, 1 gr. magnesium carbonate and 3¼ gr. calcium bicarbonate. The alternative of water thus prepared will be found in rain water from properly constructed cisterns.

40.—Observations in Anesthesia.—This paper, written by a trained nurse, gives the results of some 3500 anesthesias in St. Mary's Hospital, Rochester, Minn., and she believes that the following conclusions are warranted: That the simple Esmarch mask is superior to any other inhaler now in use; that ether should be given with more air than was formerly supposed necessary; that patients revive quickly with plenty of air and withdrawal of the anesthetic. The main thing in giving an anesthetic is not to feel hurried and not to crowd either ether or chloroform. Avoid the frequent use of gags and tongue forceps. Do not rely on any one danger signal, but carefully watch all symptoms.

41.—Abdominal and Vaginal Incisions for Pelvic Disease.—Abbott favors free abdominal opening in the majority of cases of pelvic disease. While many of the conditions selected in this paper, for abdominal incision, have been operated on by the vaginal route and it may be preferable in exceptional cases, he thinks that this route should be limited: 1, to pelvic abscesses, or those cases which are practically the same, i.e., recent exudates or hemorrhages becoming septic; 2, the breaking up of adhesions of the lighter grades; 3, to opening of abscesses in the broad ligaments when pointing toward the cervix, and 4, the

removal of small intrauterine or other pelvic tumors when the capacity of the vagina is fully adequate for a thorough technic.

42.—Dropsy.—Wilson remarks that dropsy has been changed from its former position as a disease to be merely a symptom, but he thinks that probably it will be better to follow Allbutt in treating it as a special disease. He thinks that the part played by altered conditions of the blood in its production have been too little regarded, and he considers at considerable length the various forms of transudates, edemas following hemorrhage, which are due to hydremia; those of chlorosis, also to an altered condition of the blood; nephritis, also a toxemia, due to deficient elimination of the kidneys; parenchymatous dropsies; the dropsies of diabetes; those due to interference with resorption of serum, the edema of pregnancy; liver cirrhosis, and cardiac disease.

43.—Bullet Wounds of Intestines.—Taylor asks: "Are there any early differential symptoms that are present in intestinal lesions and absent when no such wounds exist?" He believes that we can say, in reply to this question, that abolished peristalsis is one of the most competent and valuable signs, the more so as it is immediately appreciable. If we are correct in inferring that this is uniformly present in an early stage of intestinal lesions, it is probably the only early symptom on which we can confidently rely. Whether it can exist as an early complication in other conditions is a probable question, but he thinks it must be so rare that he does not abandon his faith in this as a constant diagnostic sign. Second only in importance to this is the occurrence of muscular rigidity, but this may occur in other conditions, when there is sudden incision into the peritoneal sac. Shock, if prolonged, points to visceral lesions and is due to hemorrhage or extravasation of visceral contents into the cavity. If appearing some hours after the penetrating wound, and progressive in character, it points to extravasation or hemorrhage, but if delayed ten or twelve hours, it probably means septic peritonitis. Above all, however, nothing but an exploratory incision will suffice to prove the non existence of perforation.

44.—See abstract in JOURNAL, May 6, p. 996.

45.—Ibid, June 3, p. 1255.

47.—Disinfection of Railway Coaches.—The danger of infection of railway coaches is so obvious from the expectorations on the floor and the indiscriminate character of the passengers carried that some measures would be naturally suggested to any one interested in sanitary matters. For this disinfection, Warner here reports results of experiments made with formaldehyde gas in two railway cars. Test cultures were placed within the cars, the windows and doors shut, the other openings stuffed with waste, and the generator placed on the platform, the gas being conducted by a tube through the keyhole. The day was unfavorable, there being a high wind, increasing the ventilation, but in one experiment 8 out of 13 cultures gave no growth, in the other, 6 out of 17 only gave growth. Considering the methods, the results are rather significant, and he thinks that the needs could be met by requiring the regular disinfection of the cars by the railway companies.

49.—Abscess of Liver.—Hadra notes that it frequently happens in operating for abscess of the liver that patients who seem to be doing well suddenly take a change for the worse, the cause not being very clear. To account for this in claiming that in these cases reinfection from without is responsible, he reports two cases in which this was undoubtedly the case. He believes the best way to treat large liver abscesses is to perform costotomy in a well-disinfected operating room and carry on the treatment in a similarly disinfected sick-room. During operation and after treatment most religious abstinence from meddling must be maintained. There should be no washing and no tubing and the most painstaking asepsis to the very end. The incision ought to be perpendicular and in the axillary line if possible.

50.—The National Formulary.—Hoge gives a list of proprietary remedies with corresponding prescriptions in this work, and calls attention to its advantages. He believes that by following the Formulary we can give better results and have more reliable material to work with than by adopting the lazy, unscientific way of prescribing proprietary remedies.

51.—Infant Nutrition.—Jennings' paper is a general discussion of infant feeding. It shows that errors in this regard are responsible largely for the great mortality in infants, and he reviews the literature of the subject, paying special attention to the teaching of Rotch, Holt and others. He gives their formulæ, showing the difference between cow's milk and the natural food of infants, and the methods of adapting it for infant feeding. As regards the addition of cereals, which has been advocated by Jacobi and Lewis Smith, he thinks that they should not be given in large quantities to an infant under the age of 1 year, but they may be added to the food in moderate quantities in milk mixtures after the sixth or seventh month. In the early months of life, while some infants may thrive on, or in spite of them, it should be the rule to use them only with great care and circumspection and in small quantities. He shows by analysis of the various prepared foods in the market that while they may be useful, they are unduly expensive, and the absence of small quantities of fat is their principal defect.

52.—Trephining for Traumatic Epilepsy.—Roberts reports two cases of trephining for traumatic epilepsy occurring ten years or more after the receipt of the injury. In the first case the operation was done fifteen years after the accident. The longitudinal sinus was opened, but the hemorrhage was readily arrested. In both cases the patients stood the operations well, but the ultimate results are not prophesied.

53.—Men and Their Ages.—Bruce discusses the question "When can a man be said to be in his prime?" His paper is largely in quotation marks in the form of a dialogue between a "successful practitioner" and a friend, and the practitioner thinks that the period of old age is becoming more remote, and that the dead line, half real, half imaginary, ought to be removed still farther ahead.

54.—See abstract in JOURNAL, June 3, p. 1256.

55.—See JOURNAL, June 17, p. 1382.

56.—Typhoid and Quartan Malarial Fever.—The case reported by Craig demonstrates the simultaneous occurrence of typhoid and malarial fever. The patient gave a history of having had repeated attacks of malarial fever. The clinic history during the first fifteen days was characteristic of typhoid. Widal's reaction was obtained on the twelfth day of the fever, the urine, also at this time, showing the diazo reaction very markedly. A pronounced chill occurred on the fifteenth day, recurring again in seventy-two hours. At this time the quartan malarial organism was amply demonstrated in the blood. The administration of quinin soon controlled these symptoms. The typhoid symptoms gradually subsided, resulting in recovery about the thirty-fifth day.

57.—Hypotonia.—From an analysis of the value of Fränkel's symptoms as characteristic of locomotor ataxia, Wood considers that the close connection between hypotonia and the knee-jerk seems to make the new symptom of comparatively little value in the diagnosis of primary tabes; considering the two symptoms to be expressions of the same condition, it is evident they must frequently co exist, and the presence of the one does not materially increase the diagnostic value of the other. It is pointed out that the power to fully extend the legs while the body remains in the dorsal position with the head slightly elevated (hypotonia) depends simply on a great loss of muscular tone, and that this condition is also at the basis of the loss of the knee-jerk. Complete hypotonia, however, it is likely, depends on a more complete loss of tone than does loss of knee jerk.

58.—Case of Smallpox.—Jacobsohn's case is of value in that his observations began three days before the eruption appeared. The case developed in private practice; the child, 8 years of age, had never been successfully vaccinated. The course of the disease was not atypic.

61.—Diabetes Mellitus.—Having treated a case of diabetes with some success, by the use of morphin, Dunseith found the drug soon failed in its effect, substituted sodium salicylate and gave as much as 100 grains each day; no further increase occurred in the sugar, but otherwise the patient was unimproved. The patient subsequently developed carbuncles, the proportion of sugar rising to 10 per cent.; the case resulted fatally four months after the beginning of treatment.

62.—Obstetrics in Private Practice.—Edgar's paper gives a complete plan for the methods and appliances in the management of labor cases in private practice, including not only the instruments, etc., but also historic records for each case. The paper is illustrated, and gives diagrams of history cards.

63.—Determination of Albumin in Urine.—After noticing the difficulty of the methods heretofore in use for determining the amount of albumin in the urine, Purdy describes his own method, which he thinks has many conveniences and advantages over any other. It consists, briefly, as follows: Precipitation of the albumin in carefully graduated percentage tubes (15 c.c. capacity) by means of 2 c.c. of 50 per cent. acetic acid, and 3 c.c. of a 10 per cent. solution of ferrocyanid of potassium added to 10 c.c. of the urine. After mingling the reagents with the urine, the whole should stand for ten minutes to insure entire precipitation of the albumin. The tubes should next be placed in a centrifuge, the radius of which

hould be exactly 6¾ inches, and the centrifuge should be operated at fifteen hundred revolutions per minute for exactly hree minutes. If the conditions above stated are carefully ollowed, the volumetric percentage may be read off from the cale of the percentage tubes, and with it the corresponding ravimetric percentage and the corresponding number of grains f albumin to the fluid ounce will be indicated by referring to he table on the following page. The time required for this est need not exceed fifteen minutes, and the range of error need not be over 0.01 per cent. expressed gravimetrically. He points out the precautions necessary. The urine should be rendered acid, and if the quantity of albumin is excessive, as shown by a preliminary test, the urine should be diluted with one or more volumes of water until the volumetric percentage does exceed 10 or 15 per cent. He thinks an efficient centrifuge is essential, and the one that he has devised best meets the conditions.

65.—Holocain as Local Anesthetic.—Guttmann gives his experience with holocain, which he thinks is to be decidedly preferred to cocain, not only on account of its producing less disagreeable symptoms, but as safer and almost equally efficient. It has special advantages for persons addicted to the cocain habit. He has employed it instead of cocain in about one hundred and fifty eye operations and never observed the slightest toxic or alarming manifestations. It is not advisable, according to some writers, to use it hypodermically and it can not, therefore, replace cocain, but under certain circumstances is to be preferred to it.

66.—Compound Microscope.—Howe describes and illustrates the arrangement of a compound microscope to be used for examining the eye, which he thinks affords special advantages in noting the extent and nature of the lesions. It also affords the possibility of recognizing imperfect motion of the iris and therefore will probably aid in diagnosis and in the detecting of changes. It is also of value in photographing the anterior portion of the eye in its normal or abnormal condition.

67.—Gastric Secretions in Heart Disease.—Murdoch has examined the gastric contents of 23 persons with organic heart disease, with special reference to the presence of free HCl. In 5 cases of aortic systolic murmur, free HCl was present in 4. In 8 cases of mitral systolic murmur, it was subnormal in 1, absent in 1 and nearly normal in the others. In 5 cases of mitral presystolic murmur it was absent in 1, normal in 1 and in excess in the other 3. In 4 cases of aortic and mitral systolic murmur it was absent in 3 cases and in excess in 1. In 3 cases in which it was present the total acidity was 10 in one and rennet was absent, and in the other 2 rennet was present; the total acidity in one was 20 and 72 in the other. In 1 case of simple hypertrophy of the left ventricle due to prolonged exertion, HCl was absent, rennet was present and the total acidity was 4. He concludes that there is no constant relation between the gastric secretion and any one form of organic heart disease, judging from his own cases and those described by Einhorn, Adler, Stern, and Hemmeter.

68.—Valvular Heart Disease.—In this paper Davis gives the result of the records of 250 cases observed in his own practice. He is skeptic as to the complete anatomic recovery in cases of valvular diseases. The chances of prolonged compensation are greatest in mitral stenosis. The extent of the lesions influences prognosis in these cases, as does also its stationary or progressive character. The congenital lesions and those produced by eruptive diseases are stationary, the lesions from chorea, without marked rheumatism, produce symptoms comparatively favorable. Rheumatic lesions themselves are intermittently progressive and degenerative lesions are the least favorable. These last are liable to occur after middle life, and the age of the patient is therefore something of a guide in prognosis. The amount of hypertrophy existing is of importance. The state of general metabolism is also a good guide as to endurance and longevity of the heart; the habits of the patient, over-exertion, exposure, indigestion, use of alcoholics, etc., are also of importance. The author goes over the symptoms and results of broken compensation and analyzes his case in this regard, and also as to loss of compensation, etc. He points out in conclusion that the mortality from heart disease varies in the different sections of the country, being apparently highest in the Pacific and Rocky Mountain regions and lowest in the Middle West.

69.—Typhoid Fever in Country Practice.—The difficulties of managing typhoid fever in country practice are largely in the lack of trained nursing and the physician should therefore direct that one person exclusively take care of the patient. Paris goes into full details in regard to his methods: absolute rest, disinfection, complete isolation from visitors, milk diet principally, sponge baths, which he finds as effective as the Brand method, and thymol as an intestinal disinfectant, in preference to others used, and which can be given in olive-oil, which takes away its irritating quality in the throat and stomach. Proper management will prevent most complications. The return to solid diet should be very gradual and the patient should be kept in bed at least a week after temperature has become normal. Sedatives are rarely required, but if necessary, he finds the best combination to be 7.5 grains of chloral in a dram of paregoric.

70.—Dietetics of Infant Diseases.—Kerley calls attention to the importance of diet in infant diseases and thinks the error is often made of not reducing the diet when it should be. During exanthemata, pneumonia, severe bronchial diseases, or any severe disease with fever, he reduces the child's milk one-half with water, and substitutes animal broth and barley-water two or three times a day. Constipation in infants is largely due to casein in the milk, and it is difficult to manage this in infants. The mother must be treated. She must be provided fresh meat, fresh vegetables and cooked-fruit diet, and he advises malt liquor with luncheon or dinner. She is advised to take at least three hours' exercise in the open air daily. These methods will diminish the proteids, increase the fats, and not only relieve constipation in the child, but furnish it with better nourishment and a later weaning than would otherwise be necessary. In some cases, however, the treatment of the mother fails, and he gives cream, ½ to 2 teaspoonfuls in warm water immediately before nursing. The use of the gluten suppositories at the same hour every day is also useful. In case the cream does not agree, 15 or 20 minims of cod-liver oil three or four times daily may be effectual. When all these fail, medication may be necessary. In bottle-fed and "run-about" children, the matter is simple, as the fats and proteid contents of the food can be more easily managed. In children running about, the range of diet is so large that the management of constipation is generally exceedingly easy. In gastro-intestinal summer diseases, Kerley believes that the first thing to do is to discontinue the milk and prescribe food that will be largely absorbed by the stomach, giving the intestines a rest. He finds it a very good plan to use barley water as a basis, with the addition of a teaspoonful of beef-juice or liquid peptonoids or a little chicken broth, alternating. He rarely uses white of egg mixtures. In convalescence it is important not to return to the full strength of the milk diet at once. It should be gradually brought up to it.

73.—Summer Complaint in Children.—Fischer in this paper reviews the treatment of summer complaint in infants, due to malassimilation and improper feeding during hot weather. The digestive powers in children are readily overtaxed, and the ordinary form of summer complaint in which children lose their appetite, get thirsty, and if they do not have spells of vomiting, have greenish or liquid, foul-smelling stools, shows the efforts of nature to get rid of the fermented and unassimilated residue. It is a good plan to aid nature with a dose of castor-oil, repeated if it is vomited up, and calomel, which cleanses both stomach and bowels. When possible, irrigation of the stomach is also advisable, but this should be done entirely by the physician, as accidents have happened by getting the tube into the larynx and flooding the lungs. The bowels should also be irrigated, like the stomach, with a warm salt solution, through a fountain syringe, which, to avoid too much pressure, should not be raised more than two feet above the body. The thirst may be relieved by copious draughts of sterilized water, and in case of collapse, hypodermic injections of normal salt solution, ice-bags to the head, mustard foot baths, etc. In severe cases these are usually indicated. The dietetic management should be, first, complete change of food. Substitute barley water, sago water and such drinks for the milk. Change of air is also another essential. Children suffering from summer complaint in the warm city will suddenly become almost constipated on being given a sea voyage. Bathing, sponging, proper arrangement of clothing, etc., are other matters discussed.

74.—Nosology of Functional Diseases.—In this paper Collins and Fraenkel discuss the so called functional diseases, in which they class epilepsy, insanity with lucid intervals, neurasthenia, asthma, etc., at one end of the series and at the other rheumatism in all its various forms, morbid obesity, arteriocapillary fibrosis, and between these a transitional group, including hysteria, Graves' disease, emphysema, etc. The key-note of this paper is that each and every one of these diseases is legitimately interpreted on the basis of an original disorder of the sympathetic, and they argue at length in favor of this proposition. All of these diseases have certain common features, among the first of which they class heredity, the origin of which they think is to be sought in the sympathetic system which controls

the growth-tendency of the body. Another feature is that sufferers from these diseases are nearly always possessed with what we call degenerative stigmata, which are ataxic manifestations of growth. Other peculiarities are their interchangeability, their sensitiveness, atmospheric and telluric influences, their insidious onset and the general coincidence in their therapeutics. The authors discuss in detail the conditions of neurasthenia, which they think will be better explained by a study of the sympathetic nervous system than in any other way; arteriocapillary fibrosis, which they hold to have a similar pathologic explanation; rheumatism, gout, Graves' disease, and hysteria. In conclusion they mention acromegaly, as related to disorders of the pituitary body, and they quote Cyon's recent experiments to show that this body is functionally and morphologically a part of the sympathetic nervous system.

75.—Ruptures of Heart.—The case reported here is that of a young man who was thrown from a bicycle and struck with force on the post of the handle-bar, fracturing one of the costal cartilages and causing a transverse rent in the apex of the right ventricle, extending through its wall. The tear had partly separated a triangular flap of the heart substance, the sides of which were $1\frac{1}{4}$ and $1\frac{5}{8}$ inches respectively. In spite of this injury he was taken to the hospital, revived enough to tell his name and address, called for water and did not die for an hour and a half after the fall. Newton discusses similar accidents, goes over the literature, and thinks that if this case had been diagnosed sufficiently early for operation, the man's life might have been saved.

77.—See abstract in JOURNAL, May 13, p. 1060.

78.—Incontinence of Feces.—Krouse divides the conditions causing this symptom as follows: 1, traumatic injury of the sphincter; 2, destructive ulceration of lower end of gut; 3, loss of nervous innervation of outlet of bowels. He discusses the theories of the cause of incontinence following operation for fistula, that of Henry Smith, in which it is chiefly due to the free incision of the internal sphincter and circular muscular fibers of the rectum, Esmarch's theory that it is due to division of the motor nerves, and Kelsey's, that it is caused by vicious cicatrization, without offering any positive opinion of his own. He reports five cases briefly, in which it was due to the overstraining or to the free incision of the sphincter, and to the dense cicatricial tissues around the anus, preventing the muscles from acting. In one case the trouble was due to the gradual dulling of the sensibility of the lower bowel, allowing the feces to accumulate and exude without the consciousness of the patient.

79.—See abstract in JOURNAL, May 6, p. 1000.

81.—Simulated Blindness.—Bernstein briefly reports three cases of simulated blindness and gives in detail the methods of its detection.

FOREIGN.

British Medical Journal, June 3.

Parasite of Malaria in Tissues in a Fatal Case of Blackwater Fever. GEORGE THIN.—The author reports a case of blackwater fever sent to him by Dr. Kerr Cross from Africa. First, however, he alludes to Koch's theory that quinin is the cause of this condition, and asserts that the history indicates that in many of the cases reported by Dr. Plehn this was probably the cause. In the case observed the brain, spleen, liver and kidneys were the organs investigated. The parasites were found in the brain; in the spleen, liver and kidneys they were not found. While the first examination did not show the expected pigmentation, closer examination revealed it. He concludes that in the blackwater case the toxins act more virulently than in the others, and that the intoxication appears to be helped by quinin in the blood.

Additional Observations on Functions of Suprarenal Gland. A. G. AULD.—The author gives the result of experimental investigation as to the functions of the suprarenal glands, the subjects of experiments being mostly cats. The extirpation of one gland did not seem to have any specially bad effect, and on post mortem the remaining gland was not found, as a rule, hypertrophic. In one case it seemed reduced in size, but two phenomena were very apparent—a very great hypertrophy of the thymus and considerable enlargement of the spleen. The most striking feature in the thymus was the excessive vascularity of the medulla, otherwise the alveoli were enlarged and the nuclei very prominent. The concentric capsules appeared unaltered. Removal of the second gland in the cat always caused death within thirty six hours, the animal lying in a state of extreme weakness and apparent drowsiness from the time of the operation. Death was preceded by convulsions in the one case observed. He concludes that the suprarenal glands act by destroying deleterious substances and furnishing a material to the blood. The work appears to be done h the medulla. There is, therefore, considerable ground for r garding the toxin which acts apparently as a vasoconstricto as an evidence of the former function.

Cystoscope in Surgery. W. THELWALL THOMAS.—The auth calls attention to the importance of examining the bladder any case of hematuria. The only method is with the cyst scope, which enables us to ascertain whether the cause bleeding is in the bladder or not. He reports four cases, tw of villous growths in the bladder and two of tumor, illustratir the value of this method.

Two Cases of Extreme Dilatation of Sigmoid Flexure; Colopexy; R covery. SHIRLEY LAWRENCE WOOLMER.—Two cases of laparo omy for enormous dilatation of the sigmoid due to chronic co stipation are here reported, and attention is called to the litt notice such conditions have received in the text-books. Th second case also illustrated the disadvantage of the Schleic method in those laparotomies where it is of the first importanc that the functions of the bowels are not retarded. The meteo ism caused by the morphin in the injection produced the kee est suffering to the patient.

Lancet, June 3.

Crossed Aphasia, Factors which Go to Determine Whether t "Leading" or "Driving" Speech-Centers Shall Be Located in Left Right Hemispheres of Brain. BYRON BRAMWELL.—In this artic Bramwell reports a case of a man, entirely left-handed with t exception of writing, which he had learned to do with his righ hand, suffering from right hemiplegia, which came on sudden In his case there was marked and persistent aphasia, an Bramwell concludes that the lesion was situated in the le hemisphere in this left handed man, and that the motor sic of the speech organism was directly implicated and the speec centers also in the cortical region. He believes that from t symptoms the lesion was due to either hemorrhage or embolism with the probability in favor of the latter. The subject "crossed aphasia," as he designates it, is discussed at fu length. The vast majority of mankind are either right- or lef handed. Absolute ambidexterity must be very rare, if it exist Right-handedness is the rule, and this he attributes to hered ity, congenital organic aptitude and acquirement. In the righ handed person the left hemisphere, and in the left-hande person the right hemisphere, is the leading or driving portio of the brain, and with rare exceptions, the speech centers are situ ated in this side. Exceptions occasionally occur, as in the preser instance, and he explains the exceptions by assuming that th ancestors of the individuals were right-handed and that it just due to heredity, or heredity plus acquirement, as in th case of this individual learning to write. He quotes a cas from Oppenheim to show that in an acquired case of lef handedness, the right speech-center may be educated to ac instead of the left. So far as he is aware, however, there ha never been any case discovered of a left-handed person whos ancestors also were left-handed exhibiting this crossed hem plegia. In the closing part of his paper he makes a distinctio between cases in which the speech center is suddenly destroye and those in which the process is gradual. In these latter sometimes happens that aphasia does not occur. He account for this by what he calls "the substitution compensatio theory," a term which rather explains itself. He does not be lieve that there are any grounds for believing that in righ handed persons, whose ancestors also were right-handed, th leading motor-vocal speech-center is ever situated in the righ side of the brain, though he does not absolutely deny it.

Considerations as to Etiology and Significance of Dilated Heart. H A. CALEY.—The object of this paper is stated as being to re view the more important factors concerned in the productio of dilated heart, with special reference to their relation to on another, to illustrate the essentially symptomatic nature o the condition and to demonstrate that its significance as regard prognosis and treatment depends as much on its causation as o its degree. The special points given prominence are: that in th etiology of cardiac dilatation the two essential factors, factor of varying relative importance are: 1, the element of increase mechanic strain, and 2, myocardial weakness, primary or sec ondary; that the liability of the heart to suffer from the effect of increased work is dependent on the inter-relation that exist at the time being between the element of mechanic strain an the condition of the myocardium, which has in large measure t stand the strain, and that it is when increased mechanic strai and myocardial weakness are combined that there is the greates liability to severe cardiac dilatation. We have seen that a dilate ventricle is, per se, unfavorably placed for coping with increase work, that, given a slight degree of dilatation from mechani causes, toxic and other agencies which depress the heart muscl may greatly intensify the cardiac embarrassment, and that in

ge proportion of cases in which alteration in the mechanic conions of the circulation constitutes the primary factor in the oduction of dilatation, its later progressive development is ributable to the supervention of myocardial changes. Then, th respect to the significance of the dilatation that just as ysiologic dilation (beyond certain narrow limits) is an evince of heart fatigue, pathologic dilatation is an evidence heart overstrain—past or present—and that in order to estiate its significance with any degree of accuracy we must take te of the degree of dilatation, the condition of the heart uscle with which the dilatation is associated, its precise ology, the extent to which the work of the heart in relation the general circulation is affected by it, and the amount of cuperative power which the heart, and we may add, the ividual, possesses, this recuperative power being evidenced the course of the case and its reaction to treatment.

Annales de Dermatologie et de Syphiligraphie (Paris), May.

Injections of Artificial Serum in Malignant Syphilis. T. AUGAGNEUR.—Certain cases of malignant syphilis resist the most energetic specific treatment, but fortunately they are very rare. Two observations are related in this communication, both extremely and progressively malignant, one a fresh case and the other dating from five years previously. The fresh case threatened a speedy fatal termination. Both were treated with lavage of the blood with Hayem's artificial serum, 400 to 500 grams every fourth to fifth day. Relief was apparent at once, and the specific treatment regained its efficacy. Four or five lavages the writer considers sufficient; the elevation of temperature and polyuria are the tests of their beneficial effect. Both cases were dismissed cured, the first in one month and the other in six, with no recurrences during the year since.

Presse Medicale (Paris), May 31.

Surgical Treatment of Hydatid Cyst of Liver. DIEULAFOY.—"Laparotomy with incision and ablation of the cyst should be reserved for old cases, very large, with probable adherences, especially if pain and fever indicate infection. An aseptic aspirating puncture with a No. 2 needle is indicated in about half the cases; in a few minutes and with an insignificant opening the hydatid cyst is completely cured." "Partial and exploratory punctures should be avoided. It is imperative to evacuate the entire contents of the cyst, as otherwise the liquids have been known to filter through the tiny puncture hole into surrounding tissues with serious consequences."

Revue Hebd. de Laryngologie (Bordeaux), May 20.

Lipoma of Epiglottis. J. GAREL.—Notwithstanding its location on the right glosso epiglottic fossa, the lipoma, which weighed twenty five grams when removed, had never caused any suffocating accidents. Garel prefers the galvanic loop for ablation as more certain, producing rapid cicatrization and less danger of hemorrhage, although a second séance may be necessary as in this case, to remove the last trace of the tumor. Only thirteen cases of lipoma of the epiglottis are on record.

Muenchener Medicinische Wochenschrift, May 30.

Histology and Histogenesis of Papillary Cystoma of Ovaries. A. OFFENHEIMER.—Study of a few cases of different varieties, superficial, ciliated, etc., demonstrated that the tumors develop late in life, and from the superficial epithelium, by a primary proliferation in the form of canals inward. The first layer of the papillæ is purely epithelial. No positive evidence has yet been offered that papillary cystomata develop by canals proceeding from the follicular epithelium. The abrupt appearance of ciliated epithelium in the papilloma is the consequence of metaplasia, easy to understand by comparison with other anatomic and pathologic phenomena. Psammoma grains are produced by degeneration of epithelial tissue, and are noted even in the first stages of papilla formation. Papillary proliferation may lead to superficial cysts by continuity, without spontaneous origin or mechanic rupture. Particles of protoplasma on the proliferating epithelial mounds, stretching out like feelers, are possibly the beginning of new proliferations. The ovum may be perfectly intact in a follicle the walls of which are destroyed. The follicle does not necessarily have to be oval. Hyaline degeneration of the vessels seems to be a constant accompaniment to papillary degeneration. Some attribute the origin of these neoplasms to irritation from the tubes, usually gonorrheal infection, but cases have been known with entirely normal tubes.

Wiener Klinische Rundschau, May 7, 14, 21, 28.

Effect and Elimination of Large Doses of Paraldehyd. E. RAIMANN.—A couple of patients at Wagner's clinic were given 50 grams each of paraldehyd, by mistake. The effects of this large dose and its elimination were studied in the smallest details, and it was found that part was eliminated through the lungs, part through the skin, and a very small amount by the kidneys. Sleep was produced, lasting fourteen hours in one and nineteen in the other, without the slightest injury to the organism in any way resulting from this large dose. The intestinal putrefaction was completely suspended for a certain period, which can be considered rather an advantage than otherwise. The formula found most palatable is: paraldehyd, 12.0; essent. pro limonad., 1.5; spir. sacchar., 16.5; syrup simp., 30.0. Take half, diluted in water.

Gazzette degli Ospedale (Milan), May 21 and 28.

Aneurysm of the Aorta Treated by Baccelli Method. F. MARIANI.—The aneurysm measured 5 by 15 by 17 cm., and had been developing for three years with temporary partial regressions following the administration of potassium iodid. The Baccelli treatment consists in the introduction of a watch-spring into the sac, and this was successfully performed without hemorrhage, after removing about 200 c.c. of blood and simultaneously injecting the same amount of a 2 per cent. gelatin solution, four hours before. The pressure of the aneurysm was so great, however, on the veins of the neck and the pulmonary parenchyma, that death ensued in eight days. The results of the intervention proved highly gratifying, as each of the four fragments of the spring was found the nucleus of a hard resisting coagulum about 5 cm. in diameter, and there was no embolism nor rupture. The spring breaks into pieces as it oxidizes, each of which serves as a nucleus for a clot. "Rational in theory, easy in its practical application, and certain in its effect of contributing to the formation of a coagulum, this method should be preferred whenever more radical intervention is impossible and the sac is in contact with the external wall."

Cervello's Treatment of Tuberculosis. F. MARAGLIANO.—Professor Carvello of Palermo, whose name is a guarantee of scientific accuracy, has announced that he has successfully applied formic aldehyde to the treatment of pulmonary tuberculosis, in a local hospital for consumption, and obtained 40 per cent. cured; 9 far on the road to a cure; 2 very much improved, and only 5 showing no benefit from the treatment, out of 26 cases, nearly all in advanced stages. Formic aldehyde alone is irritating to the tissues, and he combines it with air in an unvarying proportion by means of his "vaporigeno" apparatus, using a new compound of formic aldehyde which he calls "Igazolo." The "vaporigeno" generates with it as much formic aldehyde as would be produced by a little more than three-quarters of its weight of paraformaldehyde, with a small amount of the vapors of iodin. The patient can inhale these fumes diffused in the room, for hours without irritation or inconvenience, and all the symptoms are rapidly alleviated except the fever, which persists sometimes even after the zone of dulness has vanished from the lungs. He attributes the effects to the excessive oxidation produced by the fumes inhaled; the bacilli are not only destroyed, but their toxins are neutralized by this extreme oxidation. The persistence of the fever he ascribes to the fact that as the bacilli are destroyed by the medication, more and more toxins are released, which it takes time to neutralize. Maragliano suggests that possibly after all, the beneficial results attained may be only due to the destruction of secondary bacteria, and that the tuberculosis bacillus may still remain intact, ensconced in the tissues. Time alone will decide; only four months yet have passed.

Havana Medica (Cuba), May.

Cultivation of Bacillus Leprae. J. CARRASQUILLA.—Lymph taken from a leper by the Herman method and sown in gelatinized human serum, kept at 37 C., resulted in cultures of an aerobic, motile bacillus, which Carrasquilla asserts is the Hansen bacillus. Cultures can also be obtained from the first cultures on the serum by sowing in neutral or slightly alkaline bouillon. Experiments now in progress, inoculating animals with these cultures, incline him to the belief that the immunity of animals to leprosy is not so absolute as supposed. The reaction in horses injected with these cultures is even more intense than when injected with serum from a leper, and serum from a horse, prepared with this fluid, modifies the disease in the same manner as when derived from horses immunized with serum from lepers.

Brazil Medico, April 15.

Preservation of Cadavers for Anatomic Studies. B. CARVALHO.—The horrors and dangers of the dissecting room in the tropic climate of Rio Janeiro have been entirely obviated by Prof. Paes Leme's injections of formol, which preserve the tissues of a cadaver in a condition favorable for anatomic studies. A cadaver that had been kept twenty days in this way, had the appearance of a fresh cadaver, in every respect, on the surface and when dissected. Anatomic pieces taken from these cadavers and kept in formol solution were in a perfect state of preservation, although in time they became mummified. One cadaver inspected had been preserved forty eight hours by being wrapped in cloths moistened with the solution instead

of injected. Tests are now in progress to determine whether the injections diminish the noxious effects of the cadaveric microbes and toxins as hoped and expected.

Anales del Circulo Medico (Buenos Ayres), March 31.

Otologic Basin. LIZARRALDE.—The advantages of this celluloid ear basin, connected with the nickeled bronze pail on its tripod by a rubber tube, are obvious at a glance. It is light, adjustable to any sized ear, and fits so closely that it becomes part of the head, as it were, and both aurist and patient forget all

about it and about the escaping fluid. An upright screen, with a hole in the center for the syringe or eye, is set on the edge of the basin, when needed. By unbuckling the strap the basin can be removed in a second, when it is hung on the standard that rises from the pail, and the whole apparatus set aside; it is rather ornamental than otherwise to the office.

Revista Medica (Mexico), May 1.

Meningitis Tuberculosa. F. BULMAN.—Applying to meningitis tuberculosa the results of experience with tuberculosis of the peritoneum, it seems rational to assume that opening the focus to the air and allowing the expulsion of putrid matters would prove as beneficial in the former as in the latter, and in fact the *Lancet* of March 10, 1894, reported a case, not bacteriologically confirmed, of a child 5 years of age who was restored to health in a month, after all hope had been abandoned, by trephining the occipital, incising the dura mater and arachnoid and inserting a rubber tube. Bulman recommends trephining the squamous portion of the temporal bone, which is easily perforated and allows access to the regions especially affected by the tubercle in its localization on the pia mater. This transference of meningitis tuberculosa from the physician to the surgeon is not relished by the latter, and two recently refused to operate on a lad at the commencement of the convulsive period of the disease, in spite of the appeals of Terres, endorsed by Carbajal and Bulman.

Kleenetchesky Jurnal (Moscow), April.

Disposition of Gonococci in Gonorrheal Secretions. A. E. LANTZ.—Reviewing the international literature on the subject and the conclusions of personal research, Lantz considers himself justified in asserting that while it is advantageous from certain points of view to determine the occurrence of the gonococci free or within the cells in the gonorrheal secretion, yet that it is impossible to carry out in practice this classification of cases of acute gonorrhea based on the microscopic determination of the location of the gonococci. Also that the occurrence of the gonococci free or within the cells has no significance per se in regard to the prognosis. Also that the disposition of the cocci within or without the cells can not per se serve as evidence against the importance of local therapeutics.

Foot as an Aid to Diagnosis.—A South American confrère, S. Tatti, has called attention to the pulsation of the foot when the legs are crossed, as a means of diagnosing various disturbances in the circulation even in their incipient stages, as he has established by much study (*Semana Medica*). One of the points accepted as infallible of the guilt of Dreyfus was, we learn, the increased motion of his foot in this position when asked certain leading questions, showing increased heart action consequent on emotion.—*Journal de Méd. de Paris*, June 4.

Societies.

COMING MEETINGS.

American Ophthalmological Association, New London, Conn., July
New Jersey Medical Society, Deal Beach, June 27.

Houston District Medical Association.—At the recent meeting this Texas association, the following officers were elected president, Dr. McKay; vice-president, Dr. Engleheart; secretary and treasurer, Dr. Hodges.

Ann Arbor Medical Club.—The first annual meeting of this society was held at Ann Arbor, Mich., June 14, and the following officers elected for the ensuing year: president, C. G. Darling; vice president, J. R. Arneill; secretary and treasurer, Wm. A. Spitzley.

Northampton County Medical Society.—The fiftieth anniversary of this society was celebrated in Easton, Pa., June 13. The only surviving member of the original twenty-two who were present at its foundation was Dr. Amos Seip of Easton, who read a paper on "Historic Recollections of the Society."

Thirteenth International Congress of the Medical Sciences.—As already announced, this congress will be held at Paris, August 4 to 9, 1900. The membership fee of 25 francs can be sent direct to M. Duflocq, treasurer of the congress, 64 Rue Miromesnil, Paris, and a card will be forwarded in return entitling the holder to all the privileges of the congress.

Chicago Medical Society.—In a synopsis of a paper on the "Surgical Aspect of Hip joint Tuberculosis," presented before the society on May 3 (see JOURNAL, May 27, p. 1178), Dr. L. L. McArthur was made to say: "There is no longer need of a diagnosis of hip-joint disease." It should read: "The diagnosis of 'hip joint' disease is no longer sufficiently refined."

Massachusetts Medical Society.—At the annual meeting of this society, recently held in Boston, the following officers were elected: president, Edward B. Harvey, Westboro; vice-president, Charles M. Green, Boston; treasurer, Edward M. Buckingham, Boston; corresponding secretary, Charles W. Swan, Brookline; recording secretary, Francis W. Goss, Roxbury; librarian, Edward H. Brigham, Brookline.

German Congress of Gynecology.—Olshausen presided at the eighth annual congress of the German Gynecologic Association at Berlin, in May. Zweifel and Rosthorn presented the subject of the "Treatment of Myomata," and Bumm, "Puerperal Fever." The congress will meet next year at Giessen, under the presidency of Löhlein. The subjects announced are "Radical Operations for Carcinoma Uteri" and "Treatment of Eclampsia."

American Surgical Association.—The reporter of the recent sessions of this association (see JOURNAL, June 10) accidentally omitted mention of the "Demonstration of the La Place Forceps," by Dr. Ernest La Place of Philadelphia. The regular demonstration lasted twenty minutes in the general meeting, but was continued for three hours later in an adjoining room to sections of ten members of the association. Similar demonstrations were made at the recent meeting at Columbus.

Washtenaw County Medical Society.—At the annual meeting of this society, held at Ypsilanti, Mich., June 12, the following officers were elected: president, Geo. Dock, Ann Arbor; vice-president, Ellen Murray, Ypsilanti; secretary, Jas. T. Breakley, Ann Arbor; treasurer, John A. Wessinger, Ann Arbor. An amendment was passed changing the constitution of this society so that hereafter meetings shall be held monthly from October to June, inclusive, two at Ypsilanti and seven at Ann Arbor, unless otherwise voted at a previous meeting.

Illinois State Medical Society.—Through an inadvertence, in our report of the proceedings of this society, we omitted a paper read by Dr. Carl Wagner, Chicago, entitled, "Amputation at

e Hip-Joint," in which he reported an interesting case, hibited the specimen, and demonstrated a new method, hich was illustrated by cuts. Several micro-photographs of e specimen were passed around. He gave a critic review of her methods of operating for sarcoma at the hip joint, and scribed a method devised by himself, which showed distinct ivantages.

American Laryngological, Rhinological and Otological Society.

Fifth Annual Meeting, held at Cincinnati, June 2 and 3, 1899.

MASTOID OPERATIONS.

Dr. MAX THORNER, Cincinnati, exhibited several interesting ases on whom he had done the mastoid operation. The first owed an excellent result, the large cavity in the mastoid eing well covered with epidermis. There had been no dis- harge for almost a year. The patient was so well satisfied ith the result obtained that he did not care to have a plastic peration done for the cosmetic effect. The second differed arkedly from the first in that the first case presented an extra- hural abscess of eighteen years' standing, while in the second e symptoms developed very rapidly. The Doctor is not in avor of the early closure of the opening with suture at the time of the operation or soon thereafter. The third case had com- ained of pain over the mastoid on several occasions, with in- rvals of almost complete freedom. Finally the pain increased, the temperature ran up to 101 degrees, and some swelling eveloped. On operation the mastoid was found full of gran- ilation tissue and pus was demonstrated throughout the whole mastoid. Recovery was complete in some eight weeks after peration. The fourth case presented a somewhat similar con- dition of otitis media with discharge, which would stop and then open up again. Finally the pain became unbearable, although the temperature was only 100. On operation there was found great destruction of tissue, and pus was demon- strated throughout the mastoid. The entire cortex was removed and the operator went deep down into the mastoid. The third and fourth cases were remarkably similar.

THE FACIAL NERVE AS IT AFFECTS THE AURIST.

Dr. GEORGE L. RICHARDS, Fall River, Mass., read this paper and presented a number of specimens which he had opened with the chisel to find the location of the facial nerve with special reference to the mastoid operation. There are many variations in the course of the nerve, showing that its exact location can not be predicted with certainty in any case. In the discussion that followed, a number of cases of facial paraly- sis following the mastoid operation were reported, some of which seemed to be permanent. The agents generally recom- mended for the treatment of facial paralysis were galvanism, faradism, massage and the use of strychnia and tonics.

ASTHMA AS A REFLEX MANIFESTATION FROM ABSCESS OF ANTRUM.

Dr. CHARLES W. RICHARDSON, Washington, D. C., spoke of the reflex disturbances in the respiratory tract and other or- gans caused by pathologic changes within the nasal chambers and neighboring accessory cavities, the disturbances being at times so remote as to make it impossible to decide whether the relief of the accessory disturbance is an effect or an incident in the treatment. In the past three years he had had two cases of antral abscess attended by marked evidence of asthma, in both of which the asthma seemed to be excited in a reflex man- ner through the abscess of the antrum, and in which the asthma was relieved by the evacuation of the pus within the antral cavity.

TRAUMATIC HEMORRHAGE FROM NOSE AND PHARYNX WITH REPORT OF CASES.

Dr. ROBERT C. MYLES, New York City, read this paper. He considered five important points: Whether the surgeon has any means of finding out before operation the probabilities of hemorrhage; if there is reason for suspecting excessive bleed- ing, whether there ought not to be more limitation in the area and depth in making sections and excisions. After each ope- ration where there is a reasonable possibility of delayed or sec- ondary hemorrhage, the patient should be kept within easy reach of the surgeon. Careful instruction should be given the attendant to watch the patient during the night. Several cases had been seen in which dangerous and alarming hemor- rhages had occurred, and the conditions were not discovered until the patients were nearly exsanguinated. As soon as the surgeon has evidence that he is dealing with a bleeder, he should apply expressed tampons of tanno-gallic acid. In the discussion that followed a number of cases of hemophilia were reported, in which obstinate hemorrhage came on within a few hours after operations on the upper air-passages.

REPORT OF CASE WHERE DEFECTIVE SPEECH RESULTS IN SOME INTERESTING DERANGEMENTS OF CEREBRAL FUNCTIONS.

Dr. G. HUDSON MAKUEN, Philadelphia, reported the case of a boy 15 years of age, whose speech was so defective as to be scarcely understood. While he was apt in arithmetic, he had special trouble with everything in which the use of letters and words was required, being often unable to write the simplest words or to remember the names of letters and words that he had learned. His writing and spelling were very defective, but he was proficient in the use of figures. He was by no means feeble-minded, but there was some functional impairment in the action of the cortical visual word-center, resulting in par- tial word-blindness. When for any reason the development of the faculty of speech is delayed, there is a corresponding lack of functional activity in both the visual and auditory word- centers, as well as in those related areas of the brain employed in the use of language and thought. So great is the depend- ence of the functional activity of these special centers and their related areas on the use of the faculty of speech that its lack of development, due entirely to mechanic obstructions in the peripheral organs, has in some cases led to a diagnosis of im- becility and even idiocy. The author advised systematic speech training to determine whether the defective cerebration was of functional or organic origin. The improvement of his patient under this treatment had been marvelous, and illustrated the importance of special training as a remedial agent in certain forms of feeble mentality characterized by defective speech and other motor disturbances.

APPROPRIATE TREATMENT OF CERTAIN VARIETIES OF NASAL DEFLECTION AND REDUNDANCY.

Dr. D. BRADEN KYLE, Philadelphia, in this paper gave the following varieties of deflection of the septum: 1. The split cartilaginous septum with bulging into both nostrils. 2. Dis- location of the columnar cartilage. 3. Simple deflection in which the cartilage is very thin. 4. The letter-S deflection. 5. Deflection of the cartilage with involvement of the bony sep- tum. 6. Deflection due to the splitting of the cartilage with bulging on one side only. 7. Deflection in which there is re- dundancy of tissue overlapping the septum and extending close to the floor of the nose. Under deformities of the septum the paper dealt with the deviation or deflection from disease, trau- matic deflection and congenital deflection. Concerning treat- ment, the author said that each deflection required some mod- ification from a given method; no one operation would answer in all cases, as shown by the many methods proposed. The conditions presenting necessitate a combination of methods rather than the following of any one method.

USE OF RUBBER SPLINTS IN TREATMENT FOLLOWING INTRANASAL OPERATIONS.

Dr. J. PRICE BROWN, Toronto, Canada, read this paper. For tubage following intranasal operations the author thought that rubber splints made from thin rubber sheeting were superior to silver tubes, and much to be preferred to hard or perforated splints. They are smooth, compressible and elastic, can be readily cut to the required shape, and can be obtained of any thickness desired.

PYEMIC SINUS THROMBOSIS COMPLICATING PURULENT MASTOID- ITIS WITH MULTIPLE EPIDURAL ABSCESS, CAUSED BY AN ACUTE OTITIS MEDIA. OPERATION. RECOVERY.

Dr. J. F. MCKERNON of New York read a paper on this sub- ject. Some weeks previous, the patient had been operated on for polypi, after which he suffered an attack of facial paralysis, followed by intense pain in the left ear. The author considered the acute otitis the direct result of the erysipelatous inflam- mation traveling through the Eustachian tube and infecting the middle ear, as the discharge showed the streptococcus present. The complete disintegration of the mastoid he as- cribed to the virulence of the inflammation. He considered the thrombosis due to his wounding the sinus at the mastoid operation. After the sinus was evacuated of pus, the patient did not convalesce satisfactorily until the metastatic deposit in the intestines had been evacuated, carrying away the poison in the system.

PHARYNGOMYCOSIS.

Dr. LEWIS CLINE, Indianapolis, read this paper. This is a term applied to a fungus growth usually found attached to the posterior wall of the pharynx, in the orifices of the crypts of the tonsils, in the folds of the mucous membrane, behind the posterior pillars and on the base of the tongue. It consists of leptothrix, which rapidly develop into a vigorous growth. The symptoms are generally local, causing various degrees of irri-

tation. Mycosis is a rare disease, although it is claimed that leptothrix is found in the majority of the mouths of patients examined. The disease must be differentiated from follicular tonsillitis, tonsillar concretions and diphtheria. The best treatment is the galvanocautery.

Dr. RICHARDSON referred to an article by a German writer in which it was claimed that the symptoms in cases such as those described by Dr. Cline were to be ascribed to the presence of a concretion rather than to a mycosis.

Dr. FRIEDENBERG called attention to the fact that the leptothrix causes a precipitation of earthy salts from solution.

Dr. STUCKY had secured good effect by the use of a 25 per cent. solution of pyoktanin rubbed into the masses two or three times a week. In a few weeks they would entirely disappear.

Dr. PRICE-BROWN had observed that the leptothrix was found not only on the surface, but also invading the mass, and reported several cases, one in a man who did his own grooming, a second in a man who worked two or three months polishing cows' horns, a third in a girl who worked in a brush factory, and lastly a case in a girl who was engaged for some time in making pillows out of the fluffy part of a weed. The cases seemed to indicate that the disease may originate from the inhalation of particles of the material with which the individuals worked.

Dr. LEVY called attention to the possibility that not all cases so described may be true cases of pharyngomycosis.

Dr. PHILLIPS observed that germicides seem to have little effect on the disease.

Dr. MYLES secured the best results by excising the masses.

Dr. LOEB had seen the disease twice in the same family, in a brother and sister, and had never seen a case of pharyngomycosis in which the lingual tonsil was not also involved.

The society will meet in Philadelphia next year.

Louisiana State Medical Society.

Twentieth Annual Meeting, New Orleans, May 16–18, 1899.

ARE EXCAVATIONS IN NEW ORLEANS DURING THE SUMMER MONTHS PERMISSIBLE?

Dr. L. SEXTON, in this paper, after alluding to the established fact that malarial fevers follow the upturning of the earth in new countries, mentioned several instances, occurring within the last few years, when excavations were carried on in New Orleans during the hot months without any increase of mortality either among the laborers or among the residents along the line of excavations. He alluded particularly to excavations made during the summer of 1898, during the prevalence of yellow fever, when chlorid of lime was sprinkled on the mud thrown out in the course of the work. His observations at this time were in harmony with those made previously. The conclusion reached was that excavations extending over a distance of two or three squares, filling in being worked at as the digging proceeded—the plan under which the excavations are now being carried on in New Orleans in establishing a thorough system of drainage—could under no circumstances lead to increased mortality.

Dr. R. W. WALMSLEY agreed with Dr. Sexton in the main, but criticized the use of the chlorid of lime; he held that if there was danger from the earth, the sprinkling would accomplish no good, while, on the other hand, if there is no danger from the earth the use of lime is not only unnecessary, but even does harm by leading the laity to suspect danger from the excavations and prejudicing them against such work.

Dr. L. G. LEBEUF was of opinion that excavations, while not dangerous in certain other soils, might be noxious in soil like that of New Orleans, on account of its moisture.

Dr. Q. KOHNKE, speaking for the New Orleans City Board of Health, stated that that body had recognized the innocuous character of the excavations, when conducted under certain restrictions, and had permitted the carrying on of such work, with such limitations (as to area to be turned up at any one time, etc.) as seemed proper. So far as the chlorid of lime is concerned, that was used not as a disinfectant, but as a deodorant.

Drs. A. W. DE ROALDES and GORDON KING presented: "Report of a Case of Eunuchoid or Falsetto Voice, Its Simple and Rapid Cure by Vocal Gymnastics." (See JOURNAL, xxxii, No. 15, p. 824; No. 17, p. 939.)

RESPIRATORY COMPLICATIONS OF INTERMITTENT MALARIAL FEVER, WITH REPORT OF CASES.

Dr. E. M. DUPAQUIER presented this paper. Two of the cases were white children, aged respectively 3 and 5 years, who, in the course of acute malarial manifestations of a regular quotidian type, developed symptoms of bronchial and pulmonary involvement. The congestion increased during each paroxysm of fever, while the râles persisted in larger numbe during the intermission.

Case 1 presented a chest full of râles after the total subsid ence of his fever, and coughed for nearly twenty days subse quent to that period.

In Case 2 a continued fever existed after the fourth paroxysm and the respiratory symptoms took the form of a sever bronchopneumonia of twenty-five days' duration; anemia wa marked; it was feared that tuberculosis might supervene in the depressed state of the little sufferer. Recovery, however was the ultimate termination of the case. (Dr. Dupaquie called attention to the severity of bronchial and pulmonary disease following diphtheria, measles, pertussis, typhoid fever and said that he now considers malaria one of the diseases th respiratory complications and sequelæ of which deserve seriou consideration.)

Both cases were treated by the hypodermatic injection o bichlorid of quinin, dispensed in vials containing each 1 gran of the quinin salt in solution. These vials are graduated, eac unit (there are five) containing 0.2 gm. of quinin bichlorid. Thi drug is soluble in equal parts of water and contains 81.60 pe cent. of quinin, while the bisulphate requires twelve parts fo the solution and contains but 59.12 per cent. of quinin, and th hydrochlorate requires forty parts water, though it contain 83.60 per cent. of quinin. The two cases quoted were cured b three injections each of the solution. The first injection, o 0.4 gm., lowered the temperature; the result of the second (0. gm.) and third (0.2 gm.) injections was the absence of paroxysm on the corresponding days. In carrying on this treatment which is the best for children, as much as 1 gram may be given at one time.

The third case was an Italian, 17 years old. After a week of tertian attacks, there were two days of freedom from fever attributed to the use of quinin. There came on then, insidiously, a pneumonia, which kept the lad in danger during fifteen days, though the temperature remained below 103 degrees. There was no chill; the maximum of respirations t the minute was 35; the cough was not troublesome; there wa no pain; the expectoration was scanty, sticky, but not rust colored; the lower lobe of the right lung presented the usua signs of consolidation. Clearing of the consolidated area wa not observed until the twelfth day; there was, throughout extreme prostration and asthenia, with feeble pulse, requirin cardiac stimulation.

Reference was made to the teaching of Laveran, as quote by Thayer, to the effect that the respiratory diseases—bron chitis, bronchopneumonia—complicating and following malaria attacks, are not specific manifestations of malaria, but due t their own specific causes, just as are the so-called malaria diarrheas, neuralgias, etc. Laveran pointed out, further, th fact that pneumonia complicating malaria is apt to be pro tracted, and likely to go on to gray hepatization; whence i follows that the prognosis is relatively grave.

It is of importance to establish the diagnosis on a scientifi basis by the determination of the presence of the malaria organisms in the blood. This was done in the above case, in which they were found at the first, but—and stress is laid o this—not during the period of respiratory complication in Case 2 and 3. Case 1 departed before the examination could b repeated.

In concluding, the author laid stress on the value of a posi tive result of the examination of a patient's blood for malaria organism, while admitting that a negative result does not abso lutely exclude malaria.

Dr. A. W. DE ROALDES asked whether the same physiologi effects had been observed as after the use of the ordinary prep aration by the mouth, what the local effects had been, an whether there had been any special effect on the ears.

Dr. DUPAQUIER said that in both children there had bee the usual signs of "quininism," with ringing in the ears, noth ing further; no abscess had followed the hypodermati injections, a small quantity of solution being administered, bu there had been some pain for twenty four hours.

Dr. J. A. STORCK spoke of the carbamid of quinin as a sal soluble in equal parts of water and not irritant when give hypodermatically.

Dr. T. T. TARLTON said that among other complications o malarial attacks he had seen not only bronchitis, but also form of pneumonia which he would call "malarial congestio of the lungs." In this condition there is chill, with fever of remittent type, distinct pain over the lung, hemorrhagic spu tum, and râles. There is almost a complete clearing up dur ing the remission. He treats this as he would any othe malarial manifestation. The hypodermatic treatment h

reserves for malignant cases, using the bisulphate then; in children he has never applied this treatment.

Dr. E. L. MCGEHEE thought hypodermatic medication inadvisable in children as being painful and causing induration and tenderness; in fact he thought it not warranted except in cases of pernicious fever. He administers quinin to children in the form of suppositories, or even of capsules placed in the rectum, where they seem to exert the same effect as when given per os.

MALARIAL HEMATURIA, WITH NOTES ON TREATMENT.

Dr. L. G. LE BEUF laid stress on the importance of making an accurate diagnosis in all cases presenting bloody urine. In this connection he called attention particularly to the necessity of differentiating the disease caused by the malarial organism from the endemic hematuria of South America and the Isle of Mauritius, caused by the *Bilharzia hematobia*, and from the hematinuria or hemoglobinuria of paroxysmal character.

In the first named disease the discovery of plasmodia in the blood settles the diagnosis; in the second it is made by the determination of the presence in the blood of Bilharz' entozoon; while in hematinuria there are paroxysmal attacks, generally caused by cold, always ushered in by a chill or rigor of the extremities, with considerable pain in the lumbar region, followed in a few hours by the discharge of dark, bloody-looking urine, which does not coagulate and in which no blood-corpuscles are found under the microscope. After reviewing the literature on the subject and giving the views of writers, pro and con, on the use of quinin in malarial hematuria, he expressed the conviction that quinin, given with care, is the proper remedy for this condition, basing his opinion on a number of cases, which he detailed.

In concluding, he repeated his injunction that the diagnosis must be made carefully, as well as his warning to use quinin sulphate with care in the treatment of the condition under discussion.

Dr. T. T. TARLTON had used quinin for hematuria and had met with two classes of cases: in the severe type, with violent chill, high fever, bloody discharge from the kidneys and sometimes from the bowels and stomach—"hemorrhagic fever"—he had found nothing to effect a cure, the patients dying in twelve to eighteen hours; in the mild class of cases he had been successful in the application of the usual antimalarial treatment—a purgative followed by quinin during the paroxysm, and later iron, quinin and strychnin in a tonic prescription.

ERUCTATION OF INFLAMMABLE GASES.

Dr. J. A. STORCK read this paper, concluding with a report of two cases observed by himself.

Case 1 was a colored woman seen at Touro Infirmary, where she had applied for treatment of a burned lip. According to her account, while lighting her pipe she belched, with the result that the gas took fire and burned her face.

Case 2, a white watchmaker, had suffered from dyspepsia for years. There was pyloric stenosis with gastric dilatation, shown by the fact that the Einhorn lamp was seen at the level of umbilicus, and the stomach could be distended until its greater curvature was felt 2¼ inches below the umbilicus. For a long time he had noticed a blue flame when using the blow-pipe about his work. On one occasion, when he used a rather short blow-pipe, the gas expelled ignited and burned his mustache. Chemic analysis had shown the eructated gas to contain hydrogen, carbon dioxid and sulphuretted hydrogen.

The treatment consisted in washing out the stomach with 1-1000 formalin solution and dieting on toasted bread, stale bread and eggs. The patient gets along well as long as he confines himself to the diet prescribed, but relapses whenever he forsakes it. Reference was made to the treatment of this condition with salicylate of sodium.

College of Physicians of Philadelphia. Section on Otology and Laryngology.

Regular Meeting, held May 17, 1899.

TREATMENT OF CHRONIC EMPYEMA OF ACESSORY SINUSES.

Dr. GEORGE C. STOUT—Relative to the cause of empyema in these cavities, the general opinion seems to be that, in the majority of cases it is caused by hypertrophic conditions of the nasal mucous membrane, which close up the infundibulum, ostium maxillare, and other openings. Bosworth regards polypi as one of the most frequent causes of antral inflammation, with hypertrophic rhinitis second. The ill-advised or heroic use of the galvanocautery has been cited as a cause, in many cases, by Fraenkel. As regards caries of the teeth, it would appear that it is a result rather than the cause of antral disease. According to Wagner, poisoning by lead may be a cause of empyema and he advises that in all cases of intractable neuralgia trifacialis, the antrum should be carefully examined before operating on the nerve. A large proportion of chronic empyemas are accompanied by polypi. According to Fraenkel, nasal polypi are more often a result of sinus disease than its cause. Other causes are traumatism, acute coryza, and the exanthemata. The frequent empyemas following la grippe are probably due to attending nasal conditions rather than to any specific germ. Probably many of the obstinate or incurable cases of antral empyema are due to co-existing disease of the frontal sinus, which drains into the antrum. The diagnosis is made from the histories of the cases, the frequent co-existence of pain and purulent discharge, and may be greatly aided by transillumination with the electric lamp. Inflammation in any of the accessory sinuses might give rise to optic neuritis, diplopia, or even optic atrophy.

Treatment may be divided into the intranasal method and the extranasal, the former, including catheterizing, paracentesis, and removal of part of the inner walls. Each method has advocates, but the better way is to let the character of the case decide which is the more appropriate. It must be admitted that catheterization of the sinuses is not very practicable. A case was reported by Mermod in which there was no frontal sinus and an attempt to introduce a probe led to perforation in front of the lamina cribrosa into the anterior cerebral fossa, causing the death of the patient. Botey has modified Luc's operation by making the opening in the floor of the frontal sinus as large as possible, making an incision along the under side of the inner third of the eyebrow, curetting, and packing with sterile gauze in place of using a drainage-tube. In maxillary cases, free opening through the canine fossa, or an alveolar socket, and the frequent use of cleansing solutions, and the curette, when necessary, has many advocates. Many cases, however, of frontal and of maxillary sinusitis are curable by paracentesis through the nasal chambers. Most of the very obstinate cases of antritis are probably accompanied by frontal sinusitis, and this should be examined into in such cases. By any operation, thorough drainage is the chief object sought in the treatment.

Dr. JOSEPH S. GIBB said that, until quite recently, the subject of the treatment of accessory sinus conditions was in great confusion in consequence of the writers failing to distinguish between acute and chronic sinus disease. We have all seen a great many cases of acute inflammations of the sinuses following influenza and the exanthemata. These are cases of acute inflammation which ordinarily prove very amenable to treatment by the usual local and systemic methods. This is not the case, however, with the condition of chronic inflammation, which often will yield only to surgical measures. It would seem that the very favorable reports of the success of certain intranasal operations may be susceptible of this explanation, i.e., that the cases were of the acute variety. The great frequency of these cases of sinus disease in Europe is remarkable. For instance, Ziems of Dantzic says that he has opened the accessory sinus in 500 cases, and others report similar large numbers. The speaker, in his own clinic service, has not seen anything like as large a proportion of cases requiring operation, or he has overlooked the cases. He was forced to the conclusion that accessory sinus disease is much more frequent in Europe than it is in this country.

The first speaker has referred to these cases as if they were exclusively of nasal origin; but many cases have been reported in which the sinus disease had a dental origin and, in fact, many of them are actually treated by dentists. Dr. Miles, in a recent paper, shows how sinus disease may be set up by teeth being filled imperfectly and followed by suppuration and discharge into the sinus. There is no doubt that cases may arise both from nasal and dental causes. As regards the agency of hypertrophic conditions, they have less influence than atrophic conditions in the causation of sinus disease.

Before considering the treatment to be adopted in any case, it is of importance to first determine the particular sinus which is affected and locate the primary cause of the trouble. We should carefully examine the nasal chambers, and if we fail to find anything that in our judgment explains the symptoms, we shall not have done our duty until we also have the teeth examined, to find whether there is anything in the oral cavity to cause the sinus disease. The opinions of authorities as to the pathology of these affections have changed recently. Formerly the presence of pain was supposed to indicate the site of the disease. We now know that many cases occur without being attended by any pain whatever. Ordinarily it is not difficult to recognize the existence of sinus disease, but it may be very difficult to decide which of the accessory sinuses is affected. In the first place the presence of pus, especially when restricted to one side, is very suggestive of this condition, the character of the discharge usually indicating which sinus is at fault, by

proximity. The course pursued is to carefully cleanse the nasal chambers, and then tell the patient to bend over so that the head shall hang down for a few moments; at the end of this time, the discharge will usually reappear in some portion of the cavity. But those who have had the greatest opportunity for observation consider this as flimsy ground for correct diagnosis.

The electric light has been used for transillumination, the affected sinus being less clear than the diseased sinus. Zuckerkandl has shown why this test often fails. The thickness of the walls of the antrum may cause it to fail.

Another method of diagnosis is by paracentesis. It is very easy to perform paracentesis of the maxillary antrum or frontal sinus, but very difficult in the case of the ethmoid or sphenoid. His experience with probing has not been satisfactory, and he does not believe it possible for a probe to be introduced into the sphenoid sinus in a normal nose, and only very rarely can it be inserted into the frontal sinus. Some European observers speak as if it is a very easy thing to introduce a probe into these cavities for exploration, but he has not found it so. Fortunately, the sinuses most frequently affected are the maxillary and the frontal, which are more accessible.

Speaking only from his own experience, he concluded that the usual treatment was very often unsatisfactory. He has relied, until lately, on intranasal puncture of the antrum and washing out the cavity through this opening, but now believes the most satisfactory method is the combined method. In addition to puncturing the inner wall of the antrum in the inferior meatus, he would make a free opening from below, either from the canine fossa or through the alveolus, preferably the former. The objection to the latter is that it requires the loss of a tooth; but the tooth may be already extracted or diseased.

Ziems advocates inserting the drill between the teeth, but this the speaker had not tried. Dr. Gibb has obtained good results by the combined method, which affords good opportunity for cleaning and drainage. In cases of frontal sinus disease, he prefers opening the sinus by external incision in the supraorbital region. Some cases, however, may yield to intranasal operation, by removing the anterior edge of the middle turbinate so as to expose the outlet of the sinus and permit the introduction of a probe, thus securing free drainage and permitting the use of antiseptic washes.

Dr. ARTHUR W. WATSON said that in the great majority of cases sinus disease is secondary to nasal disease. He has seen cases in which the teeth had been removed without the slightest effect on the sinus disease. In his experience, hypertrophic conditions more frequently attend sinusitis than atrophic. He believes that the hypertrophic conditions are often secondary to sinus disease, and not so much to the frontal and maxillary as to the sphenoid and ethmoid. As to the probe, he regards it as dangerous in frontal sinus disease; the probe may go into a sinus with no posterior wall and injure the anterior lobes of the brain. The maxillary sinus may be probed when the middle turbinal is straight and not too close to the septum.

With reference to the treatment, the first thing to do is to clear out the nose, removing polypi and thickened tissue, which clog the openings and prevent drainage. In maxillary sinus disease he should not pay particular attention to the teeth unless there are special symptoms, as pain, pointing to them. In other cases, he uses a small crown trephine drill with which he removes a small plug of bone, thus giving a free outlet to the discharge through the canine fossa. Cases that get well simply by washing out the cavity would get well much quicker if a free outlet is made. Where this is not done, the pus becomes acrid and foul-smelling, and the discharge may continue for years. In treating frontal sinus disease, the best method is to make a free incision and after curetting out the cavity, running a probe down into the nose, if possible, and then closing the external wound, so as to make less scar. In disease of the maxillary sinus, if the discharge should not cease after a reasonable length of time, under ordinary treatment, then he makes a counter-opening in the canine fossa, making the opening large enough to curette the cavity. There is no advantage in a double opening, usually, if a sufficiently large perforation has been made in the internal wall. The only instances in which he has failed in treating disease of the maxillary sinus by this method was where some adjoining sinus had also been involved and was draining through the antrum. In this case treatment was directed against the ethmoid cells and the discharge ceased.

Dr. E. B. GLEASON said that some years ago, at a meeting of the Academy of Stomatology, he mentioned the fact that antrum disease was often secondary to disease in the nose. Harrison Allen was present and expressed surprise at this statement, as his impression was that it arose entirely from conditions of the teeth. Now, the opinion seems to prevail that the teeth have very little to do with it. Besides the methods of treatment already discussed, he has obtained good results from Politzerization of the cavities with medicated vapors, menthol, chloroform, etc. In the headache accompanying acute frontal sinus disease, for instance, he has derived great benefit, after cleansing and cocainizing the part, from injection of a little chloroform vapor into the sinus. He entirely agrees as to the value of a large opening in the canine fossa in chronic antral disease. He prefers to make the cavity so large that the patient can wash out the cavity himself. He directs the use of one or two quarts of boric acid solution daily, the patient reporting for examination every second day. At these visits, a 2 per cent. solution of nitrate of silver is injected. If in the course of a week or two the discharge does not greatly decrease, he concludes that a spur exists, or something else, and proceeds to enlarge the opening and search for it. He thinks that secretions from diseased sinuses are oftener one of the causes of atrophic rhinitis, rather than the reverse.

Dr. GEO. M. MARSHALL agreed as to the rarity of accessory sinus disease from a dental origin, recalling, however, six cases in which alveolar abscess had existed, and subsequently suppuration of the antrum of Highmore had occurred. As regards a strictly nasal origin, he instanced a case which had followed an attack of hay-fever. Treatment was by free opening and curetting, and packing the cavity with idoform gauze, giving satisfactory results. Frontal sinus disease is often difficult to overcome. He also recalled a case in which frontal headache, after lasting for years, was finally entirely overcome by external free opening of the frontal sinus.

TREATMENT OF HEADACHE AND DEAFNESS.

Dr. E. L. VANSANT read a paper entitled, "A New and Successful Treatment for Certain Forms of Headache, Deafness and Tinnitus Aurium." This was a continuation of reports of cases which had been presented to the section a year ago, bringing the histories up to the present time. The clinic notes of eighteen cases were the basis of the report, which showed remarkably prompt and prominent results from the simple expedient of syringing the nasal accessory sinuses and the Eustachian tubes, with a stream of dry, hot air, under pressure. The relief in many cases was immediate and headache of months' duration was relieved after a single treatment of a few minutes, with the hot air; though in some cases the symptoms did not yield entirely until the patient had received several treatments. The effects of injection of hot dry air into the middle ear, in the relief of tinnitus and the improvement of hearing were very marked. Better results were obtained in cases where catarrhal, rather than sclerotic, changes were present in the middle ear and Eustachian tubes. The instrument used was like that employed by the dentists for a similar purpose. It consisted of a small cylinder of carbon or metal, which could be heated by exposing it to the flame of a lamp, or a gas jet, for a few moments. This was traversed by a tube projecting in front and at the back, when held horizontally. On the front projection tips of various shapes and sizes could be affixed, or a Eustachian catheter attached. Posteriorly, connection was made with a tube from a condenser supplying the air-blast. The amount of heat produced may be varied at will from a mild warmth to a burning degree of heat and depends on how hot the chamber is heated, how swiftly the current of air is passed through, and how close the nozzle is held to the surface to be treated. In some instances vapors of chloroform, menthol &c. have been added to the heated air, by placing a small quantity of the medicament in the little cup found on one of the tips, or by placing it directly in the catheter. In preparing the nasal chambers for treatment, the mucosa is first cleansed, and then shrunken by cocain or eucain, used alone, or followed by a watery solution of the suprarenal capsule of the sheep. The hot air is directed against the openings of the sinuses; if necessary, a small catheter is used for this purpose. The middle ear is treated by means of the Eustachian catheter. The instrument is provided with a handle, attached at an angle of about sixty degrees to the cylinder. The treatment is not painful but rather agreeable to the patient. This treatment does not exclude the ordinary measures, such as the removal of hypertrophies, or spurs, and the correction of deformities of the septum, or the employment of the usual treatment for rhinitis, etc. The explanation of the prompt relief from headache was that the pain was caused by the blocking and stoppage of the outlets to the sinuses, or to the small cavities within the sinuses, this stoppage having caused retention of gases or fluids in the cavities. In other instances there may be rarefaction of the confined air, thus lessening the support of the atmospheric pressure to the walls

of the blood-vessels and causing chronic congestion of the mucous membrane lining the sinuses. The effect of the forcible syringing of these cavities with hot air, is to open up these outlets, allowing retained gases or fluids to escape, and to restore the equilibrium of the atmospheric pressure. When the outlets are once freed of their obstructions, they do not easily become again obstructed, hence the relief is not only quickly obtained but is in many cases permanent.

Dr. E. B. GLEASON spoke of the use of the Politzer bag with hot air as an old treatment of middle-ear catarrh.

Dr. WATSON inquired as to the duration of the treatment?

Dr. VANSANT said that the time varied according to circumstances and the feelings of the patient. As a rule, the heated air is only applied for a minute or two, then waiting awhile, if the patient still has pain, it is again injected. This may be repeated several times at one sitting. The séances are given daily, or several times in the week, as may be thought necessary for the case. The hot-air treatment is not novel, and the instrument itself is not original, as it resembles one used by dentists. But the application of hot air in the way indicated forms a novel treatment of the disorders named. In reply to another question from Dr. Watson, as to the sensations of the patient, Dr. Vansant said that, at first, no particular sensation is experienced, but, as the application continues, the sensation of heat gains the ascendancy. The nasal chambers will bear a higher degree of heat than the skin, probably because the surface of the mucous membrane is moist and the evaporation of the water must first take place before the heat can affect the surface.

Dr. FRANK WOODBURY suggested the substitution of an electric source of heat, which could be regulated exactly by the rheostat, and started or stopped immediately by a pressure button.

Dr. VANSANT thought that the change would add to the expense of the instrument very considerably, but it appeared otherwise feasible.

Chicago Academy of Medicine.

Regular Meeting held April 14, 1899.

(Concluded from page 1389.)

GASTROINTESTINAL RELATIONS OF DIETETICS.

Dr. FENTON B. TURCK—The academicians who have led the discussion have almost unanimously insisted that the chief indications in dietetics relate to aids to digestion or to guards against gastro-intestinal irritation. Dr. C. S. Bacon (see p. 1416) was of the opinion that there were no special indications for dietetics in pregnancy itself, but that the indications were those arising from the condition of the patient. In my opinion the vomiting of pregnancy is largely a question of dietetics as related to gastric disturbance. This last produces a strain on the general circulation. Dr. Preble emphasized this last element by calling attention to the strain on the heart due to the ingestion of three large meals a day. This strain results in a vicious circle producing increased disturbance of the gastro intestinal tract. The question naturally arises, what is the physiology of dietetics? This depends on the condition of the gastro-intestinal tract. The questions of the caloric value of food and the length of time it may remain in the stomach, have been carefully studied. But the question still remains: 1. What is the physiology of dietetics as related to the gastro-intestinal tract? 2. What is the pathology of dietetics in relation to the gastro-intestinal tract? 3. What is the therapeusis?

The physiology of dietetics as related to the gastro intestinal tract resolves itself into: The mechanic processes by which food is carried into the stomach, including the movement of the esophagus; the movement of stomach to churn, mince and reduce the food to a pulpy substance and pass it on to the intestinal tube. Here a similar process is carried out and the food reduced to finer particles. Then arises the question of the various stages of solution. The second process, that of proteolysis, involves the formation of the primary and secondary albumoses and peptones. The third process of digestion by the cells lining the gastro intestinal tract takes up the peptones, the egg albumin, the primary and secondary albumoses, and transforms them by a process of the cell itself into the circulating albumin. It makes no difference whether it be egg albumin or peptone, the result of the process is a circulating albumin. Egg albumin is capable of being tranformed by the cells lining the rectum, and of being thrown into the blood as circulating albumin. In this form only can it be utilized. Many classes of food have qualities which render it impossible for the stomach or intestines to divide them into fine particles. Cheese, for instance, contains all necessary nutritive elements, yet it can not be thoroughly digested; many other foods of value in themselves can not be taken up by the blood vessels in suitable form. Many foods introduced into the stomach become, therefore, gastro intestinal irritants instead of nutritive elements.

The point has been raised that Americans pay very little attention to the preparation and cooking of food. I believe Americans pay a great deal too much attention to the cooking of food. The people of New England have paid such a degree of attention to this subject, that the whole United States is infested with New England products; the well known pork and beans, mince pies, doughnuts, hot biscuits (usually washed down with ice-water), etc. From this results much of the pathology of dietetics and many diseases consequent on it. It is impossible for ferments to penetrate food surrounded by fatty material. Fatty acids being set free produce gastro-intestinal irritation and thus interfere with digestion. Fresh butter taken before the fatty acids are formed will produce no disturbance. Mixed up and heated so that the fatty acids are set free, it becomes a gastro-intestinal irritant.

The proper preparation of the food before it is introduced into the gastro-intestinal tract is a very important element. Meats, for example, are sometimes so cooked that while palatable, they are indigestible. Palatability is an artificial taste to no small extent. It may reasonably be called a degeneracy. One speaker referred to the preparation and introduction of fats and fatty acids and other agents, so no gelatin should be formed but the albumin be coagulated. Connective tissue may be transformed into gelatin by encapsulating beef and then by first placing it in an oven at a high temperature (so as to coagulate the capsule surrounding the whole plate of meat) and later lowering the temperature. It is not necessary to coagulate all the albumin. Chopped meat must be prepared under a high temperature; so that the meat will be cooked by its own fluids; in this way more gelatin is formed and is rendered more digestible, more palatable and more nutritious.

The question of therapeutics of dietetics is a tremendous one. Dr. Preble referred to giving frequent meals, which overworked the heart. If the frequency of the meals be reduced this difficulty on the part of the heart is lessened. In certain diseases there is lack of stomach motility. This is noticeable in cases after operation. In certain liver diseases the organ is incapable of doing its work properly. It is slower in its contractions. The normal contractions of the gastro-intestinal tract are slow physiologically. In these morbid conditions the contractions are still slower. The organ takes a longer time to contract and churn food. It takes so long to churn the food that it remains longer in the stomach than it would under normal conditions. Every time food is introduced into the stomach the contractions are stimulated; the organ is called on to do more work until exhaustion may take place. For instance, a person may eat at 7 o'clock, then at 10 o'clock, at 1 o'clock, at 4 o'clock, at 6:30, and may take another meal before going to bed. This principle adopted from the Germans is all wrong. Physiologic law requires that after work there should be rest. The motility of the organ must be restored by rest, so that it can carry on its work. The stomach is called on to do too much, and instead of the food undergoing digestion, it undergoes decomposition, and as a result secondary albumoses and toxins form. These in turn are carried into the system. Various diseases then result, attributable to the poisons thus formed in the gastro-intestinal tract. From retention of food in the stomach results the formation of large quantities of peptones. These peptones, toxic in effect, are carried into the intestinal tract; when they become more liquid irritation of the intestines is produced. It is true a patient may feel hungry, but hunger is not an indication for introducing food into the stomach. Hunger may be bulimic in type and hence is not always a guide to be depended on. I would strongly support the position of Dr. Peterson, that patients should get, while in bed, rest of the gastro-intestinal tract.

The point made by Dr. Engelmann, of withdrawal of all food for a while, is excellent. In children, lack of motility is frequent. The child cries to have more food. Now, if lighter meals and smaller ones be given, the child will retain the food. What occurs if the stomach lies idle and the food accumulates in it? Decomposition takes place. Hydrochloric acid is not a sufficient preventive against decomposition. Toxins are formed from the bacteria, as are also peptones in excessive quantity, and these become gastro intestinal irritants. In very severe cases of disease one meal a day is sufficient, allowing plenty of time for it to pass out. In conditions where lack of motility exists, I recommend but two meals a day, one in the morning, and one at night. No physiologic law commends three meals. I frequently have patients come to me suffering from various

disturbances, and I find remnants of the breakfast. On top of this they desire to put another meal, or they feel like doing it. It is mere force of habit.

The character of the food exerts a profound effect on the stomach and intestines. The moment food reaches the stomach it excites contraction and secretion. I have been able to excite secretion by mechanic means. The history of mankind is that coarse-grained food excites the gastro-intestinal tract, although the food itself be not digested. Coarse-grained food was used in great abundance by the ancients, but with civilization's advance less and less coarse-grained food is used. As a consequence more and more neurasthenia and more and more gastro-intestinal disturbances result.

I have elsewhere called attention to the use of bran twice daily, or three times a week. In connection with the two-meal system, I give a cupful of bran. This stimulates the action of the gastro-intestinal tract and takes the place of coarse-grained food.

It has been found that more muscular energy can be attained from cane sugar than from starches. Cane sugar can be readily absorbed by the stomach; it is readily split up in the stomach and utilized. It is a source of energy. In many patients where there is desire for food at noontime, I give in the place of the noon meal, cane sugar, usually in the form of peanut candy. The peanuts in candy are not digested very much, and patients take this at noontime. There is not much call on the stomach. It is readily absorbed. If a meal be given at 7 o'clock, and peanut candy be taken at 1 or 2 o'clock, by night none of the products are to be found in the stomach.

DIETETICS IN DENTISTRY.

Dr. E. S. TALBOT—Dietetics in dentistry involves a conservative question. Under most conditions of suboxidation and imperfect elimination the gums are forced to assume an excretory energy to which they are unequal. As a consequence a foundation is laid for interstitial gingivitis which in all of its types may seriously threaten the integrity of the teeth. Nay more, by furnishing a culture-medium for pus microbes it may threaten the general health, not only through systemic infection, but also through its interference with proper gastric intestinal digestion. Among the restrictions in diet which dental hygiene demands is first a restriction of foods containing an excess of lime salts, which produce tartar. As excess of foods containing nitrogen, when aided by an imperfect assimilation of the carbohydrates, tends to produce constitutional conditions, like lithemia, gout, etc., which affect tissue nutrition of the gums, these foods require restriction and adaptation to the particular case. While the constitutional condition underlying lithemia markedly predisposes to gum irritations and inflammations, its value as an exciting cause is but slight. Lactic acid, as has been pointed out by Dr. Sudduth, is a more marked excitant. The ingestion of the carbohydrates without their assimilation, in consequence of their retention in the mouth, plays a part in the production of lactic acid. Scurvy, which may seriously threaten the integrity of the gums, requires the usual dietetic treatment. While there are indications of the untoward effects of infantile scurvy on the teeth, the pathology and consequences of it are not so well known as those of scurvy in the adult. The researches on scurvy in the infant tend to show that it results from a monotony of diet rather than the absence of any article of diet. One great consideration in the dietetic phase of dentistry is the use of large quantities of water, for the same reason that it is required in lithemia, the other conditions of suboxidation and the neurasthenias. The dietetics of dentistry, therefore, involve precisely the same principles as do the treatment of the constitutional conditions which are the predisposing factors of the gum disorders.

PHARMACO-CHEMIC RELATIONS OF DIETETICS.

Prof. C. S. N. HALLBERG.—I am rather discouraged in not hearing any reference made to the agents which pharmacists and pork packers have placed before the medical profession for the last twenty years for the purpose of converting food into its more digestible forms. Only comparatively recently a discussion of this kind could not have taken place without referring to the great value of the use of pepsin, pancreatin, diastase, taka diastase and similar products. I certainly can not add much to what has already been said.

I shall call your attention briefly to various fermentations that foods must undergo before they can be assimilated. Let us start with starch. It will first undergo saccharine fermentation, then the alcholic fermentation, and from alcoholic fermentation we have acid fermentation, all of which cause more or less irritation in the intestinal tract. On the other hand, take the nitrogenous substances or proteids, we have the action of pepsin, converting them into peptones of various forms. Of a third class of foods, oils and fats, very little has been said. When Dr. Turck speaks of the bran foods, I understand him to especially mean the flours made of barley and wheat without being freed by the process of bolting from the shell of the grain, which removes the gluten, phosphates, a great variety of salts and some silica. I believe attention has been called to the fact that because of the use of this bolted flour the enamel of the teeth is not perhaps as strong in this present generation as it should be, and therefore dentists have much more to contend with in their profession than they otherwise would have because the teeth are not as strong, showing that the condition of the enamel is due largely to the lack of silica that they otherwise would have. I believe with Dr. Turck that we have gone to extremes in the use of bolted flour, and I am satisfied much better results would be derived from the use of the brans than by bolted flour. In the extemporaneous preparation of some of the grains, much longer time should be taken to prepare them than is ordinarily done. Oatmeal should be allowed to boil for at least twenty minutes, then kept on the water bath and steamed for about two hours to make it palatable. The water lost by evaporation should be replaced by milk; and in that way an exceedingly palatable gruel can be prepared, one which is far more digestible than that prepared by the "hurry scurry" method of soaking the meal with water and boiling it for a brief period, as is usually the case.

With reference to oils and fats, I have thought for years that the introduction of substitutes for butter, such as butterine, made up of other animal fats, such as lard, tallow and mixtures with cottonseed-oil are deleterious, because I hold that they are not as digestible as that fat, which is without doubt the most digestible of all fats, namely, butter—and only exceeded in this respect, perhaps, by cod-liver oil. I believe, however, it is well established that it is not necessary to feed fat in order to produce fat in the body. Carbohydrates are formed into fat in the body, so that it does not necessarily follow that fat will not be produced because we do not feed a person fat.

As to the third group, the nitrogenous and proteids, milk can be made very digestible in many cases by the addition of lime-water, as pointed out by Dr. Peterson. Milk in the process of digestion will undergo lactic fermentation; to the extent that we may prevent the acid reaction by neutralization with lime, we may in many instances prevent otherwise disagreeable effects.

With reference to the nitrogenized albuminous substance, egg white, when the egg white is particularly hard-boiled it should be thoroughly comminuted. We know in an experimental way the great difficulty of dissolving egg-white with pepsin in an acid medium unless it is finely divided, and from the fact that the coagulated egg-white is not thoroughly masticated, its digestion is much retarded.

That other largely used form of nitrogenous food, meat, is at the present time of particular interest. I have been somewhat interested in the present trouble that we hear so much about concerning a product which is put up in the southern end of this city, and it seems to me that if we go by the reports which have been published relative to the processes by which this canned roast beef is made, we will have a solution of the difficulties that this stuff seems to have engendered. It appears from all the testimony that this beef is first boiled for the purpose of removing the extract, that is, the soluble constituents, phosphates, creatin, creatinin, etc., with considerable gelatin. The remaining fibrin, the skeleton beef, is subjected to a process of boiling with superheated steam which is called roasting, and this is the "canned beef" furnished the soldiers."

When Professor Liebig first published the process for making extract of beef, he called attention to the fact that the beef extract did not represent the nutrition of the beef. He also drew attention to the fact, and it has been reiterated time and again, that while the soluble constituents of the beef—the extract—did not represent the nutrition of the beef, they were nevertheless essential in promoting the digestion of the beef. I believe it is also a well known fact that boiled beef will not be eaten by dogs, because they have a shrewder instinct. Boiled beef is given as a dish once a week in many establishments, and it is always served with horse-radish or with mustard sauce, from which I infer that experience has taught the necessity of adding such intestinal irritants as the sulphocyanid compounds of mustard and horse radish, in order to promote the digestion of the otherwise indigestible beef.

RELATION OF DIETETICS TO INSANITY.

Dr. D. R. BROWER—The relation of dietetics to insanity are twofold: 1, its relation to its prevention or causation, and, 2, its relation to cure. Probably one reason why insanity prevails to such a large extent among the agricultural people is

that their diet is often insufficient and badly prepared. The average farmer sends the best of his farm produce to the market, and is satisfied to provide the poorest food for his family, and I think one reason why insanity prevails in this community to so large an extent among the Scandinavian people is due to their habits of extreme economy at the table. If there was a better understanding among the people at large of the importance of food properly cooked in its relation to general bodily nutrition, there would undoubtedly be less insanity than there is, and the laity need not only be given instructions in the selection of food, but also in its proper preparation.

The relation of diet to the treatment of insanity is one of the most important subjects connected with this topic. Insanity is usually accompanied with considerable loss in body weight, and it is a very hopeful sign if body weight increases and mental disturbance diminishes *pari passu*, and so long as there is no increase in body weight, it can always be regarded as a fact that there has been no improvement in the mental condition. The food selected to secure this increase in body weight, which means improved general nutrition, must be selected with the greatest care, having reference solely to the capacity of the individual. These patients should be weighed at the beginning of their treatment, and weighed with considerable frequency during its progress, and if the dietary does not give them increase in body weight, then we may be sure that the treatment is not a success. One of the best single articles of diet that I know of in the treatment of insanity is a properly prepared egg-nog, and I find there are very few people who know how to prepare an egg-nog properly. The yolk and white of the egg should be thoroughly beaten up separately with such care as would be exercised in the compounding of the most delicate cake. The yolk should be beaten into the milk with care, a sufficient amount of sugar to make it palatable added, and brandy in the proportion of half an ounce to a glass should also be beaten in little by little, and the white of the egg added subsequently. These egg-nogs may be administered once in four hours, and constitute the most concentrated and easily assimilable diet that I know of. But in addition to egg-nogs, I would always endeavor to urge on the patient the greatest amount of food that would appeal to the palate and judgment. Very many of these insane people at the beginning will eat but little; they will refuse to take the necessary amount of food, and when they do so, I think it is exceedingly important to begin forcible feeding early, and my practical experience with these people would lead me to the conclusion that the nose-tube furnishes, in the great majority of cases, the easiest way of forcible feeding, and to successfully forcibly feed an insane person requires at least two skilled assistants. I think a great mistake is made in the treatment of insanity in the early stages in not beginning forcible feeding soon enough. A patient, under some delusion or another, refuses to eat, and he runs down rapidly in weight, and gets into such a state of exhaustion that the brain has received, in consequence of the poverty of the blood with which it has been supplied, such serious disturbance in its nutrition that it may be impossible to correct it by any means. If any mistake is made by the average practitioner in the cure of insanity in the early stages, it will be in giving too little food. It is not possible, in my judgment, ever to overfeed insanity patients when the disease is in its incipient stage.

Dr. JAMES G. KIERNAN—I must enter a protest against some of the positions taken by Dr. Turck. If there is anything that has been established, it is rest in the treatment of neurasthenia and a number of other allied states. Rest of the stomach and of other organs is best attained along the line indicated by Dr. Peterson and Dr. Bacon rather than by the method mentioned by Dr. Turck. If benefit is to be obtained by rest of the stomach along the lines indicated by Dr. Turck, it ought to be accomplished very effectually in cases of melancholia, a condition in which it is very difficult to get patients to take food. In these cases there is not only atony of the stomach, but disinclination for food, and if the patients are not forcibly fed every two hours, they not only do not recover but often die of starvation. The position assumed by Dr. Turck is opposed to the experience of others in the dietetic treatment of neurasthenia.

I do not think the theory has been generally accepted that silica has much to do with carious teeth in the United States. The trouble in this direction arises from evolution of the jaw rather than from dietetic conditions. The bran treatment has never acted well in my experience in any case of protracted constipation where auto-intoxication has resulted. The bowels move, it is true, but this movement does not eliminate waste products previously absorbed by constipated individuals. Simple movement of the bowels is not the only therapeutic indication in constipation.

Chicago Ophthalmological and Otological Society.

Regular Meeting, Held May 9, 1899.

(*Concluded from page 1390.*)

INJURY FROM FOREIGN BODY.

Dr. E. A. LAWBAUGH—The case I present came to me during the first week of last January. On the 14th of the previous month he was struck on the inner side of the right upper lid by a piece of steel from a hammer in the hands of a fellow-workman. He was leaning over watching him, and on examining the hammer the fresh break could be seen. There was a scar on the outside of the lid, which is at present visible, and one also in the sclera directly under the lid scar. The pupil was not dilated and had a greenish hue. There was marked pericorneal injection and the tension—2. V.=fingers at seven feet in the lower field.

The pupil was dilated with atropin, dilating slowly and regularly, and on making examination with the ophthalmoscope a line of exudate in the vitreous was to be seen extending downward and backward from the location of the wound in the sclera, terminating in a ball of exudate near the temporal side of the retina. A solution of atropin was ordered for home use, and in two days the tension was normal.

A skiagraph was taken, with negative results. Then the Hirschberg electromagnet was tried, the tip of the magnet being held on the sclera opposite the ball of exudate, which was watched with the ophthalmoscope as the current was turned on, but there was no movement of the exudate. The Haab magnet was next tried the same way, but with negative results. The pericorneal injection gradually diminished, and in four weeks the atropin was discontinued, the patient returned to work and has had no further trouble.

When he came to-day his vision was $^{20}/_{200}$, and the pupil of the affected eye was 1 mm. larger than that of the fellow eye; the iris still having a slight greenish hue. The tension is normal, and the Haab magnet, which was again tried to-day, showed negative results. With the ophthalmoscope, however, it is to be seen that the exudate has split, the lower half falling a little and much thinner. A few flocculent exudates are to be seen situated through the vitreous, which has remained there since I first saw him.

Dr. WILLIAM A. MANN—I saw a case similar to this a few days ago, the patient having been hurt in a similar way two years ago. When I saw him the pupil was very much contracted, and with posterior synechiæ, showing he had had quite a marked iritis; but on getting the pupil partially dilated with atropin, one could see in the lower part of the vitreous chamber a dense, white exudate, extending pretty well from the lower part to the outer quadrant, running up near the level of the lower part of the iris. It was smoother and whiter than an ordinary detached retina would be, and no vessels could be seen over it. I concluded it was an exudate, probably from a foreign body; the disc could be seen fairly well, being obscured only by a little exudate on the anterior capsule of the lens. I do not remember what the vision was exactly, but I think $^{5}/_{200}$ or better. The eye improved under the use of atropin. There had been no irritation after the first six or eight weeks after the injury. We tried the Haab magnet, but could not produce any pain. I have not had an X-ray picture taken, but I will, to see if there is any foreign body there. The eye is absolutely quiet at present and there has been no irritation since the acute inflammation subsided two years ago.

Dr. WILLIAM A. FISHER—I had an opportunity of examining the case presented by Dr. Lawbaugh a week or so ago. Dr. Hotz thinks the foreign body might have entered with such force as to go through the eye, which is quite possible. From the experience we have had with eyes in the lower animals, a foreign body could not hang in the vitreous, surrounded by an exudate, as is shown in this case, and not be attracted by the magnet. Our experiments show that we can pull a foreign body clear through the vitreous from one side to the other with a Haab magnet. We have tried, during the last month, fully half a dozen cases for the removal of foreign bodies from the eye. Probably the most interesting case was that of Dr. Wescott, shown at our last meeting, in which a foreign body was supposed to have struck the eye and entered the anterior chamber; under illumination one could see the spot in the iris. One would have been tempted to do an iridectomy in such a case, as the foreign body seemed plain enough. In all of these cases the Haab magnet made the diagnosis of no foreign body. I am sure there is no foreign body in this case, unless it has passed through the eye and lodged in the orbital cavity.

Dr. W. F. COLEMAN—Some years ago, a man, in entering a

blacksmith's shop, was struck in the eye by a chip of iron which flew twenty feet from the anvil as a piece of iron was struck by the hammer. Cyclitis followed, and sympathetic irritation was set up in the other eye. I removed the injured eye six weeks after the injury, and found the foreign body, as I remember, lying posteriorly in the orbit, and it had perforated the eyeball anteriorly and posteriorly. In that case, although the foreign body was not in the eye, it had produced cylitis, which was the indication for the removal of the eye.

EMBOLISM OF CENTRAL ARTERY OF RETINA, LEFT EYE.

Dr. WILLIAM E. GAMBLE—On April 18 this man got a cinder in his left eye. Soon after, in opening his eye, he discovered he could not see. I examined his eye one week later. In the temporal field he could count fingers at one foot: in other parts of the field his vision was practically *nil*. He thought he could detect the hand moving before his face. The ophthalmoscope revealed embolism of the central artery of the retina, the arteries being greatly reduced in size and carrying but little blood. Edema of retina was pronounced, especially about the disc and extending from the disc to and beyond the macula, the extreme periphery of the retina showing but little evidence of edema. The nasal peripheral retina was almost free from opacity and the arteries contained more blood. No cilioretinal vessels were to be seen. The cherry spot was characteristic. The patient has aortic stenosis; has never been sick, excepting an attack of typhoid fever a number of years ago. He is 55 years old, a robust, well developed man. It has been frequently observed by Fischer, de Schweinitz and others that the temporal field suffers least from embolism of the central artery. In this case this can not be explained by the presence of cilioretinal arteries. A satisfactory explanation has yet to be made.

DIPHTHERITIC CONJUNCTIVITIS.

Dr. C. P. PINCKARD reported this case in the JOURNAL, May 27, p. 1153.

DISCUSSION.

Dr. W. F. COLEMAN—A few years ago I saw two cases of diphtheritic conjunctivitis in children at St. Elizabeth's Hospital, there being at that time many cases of diphtheria in the hospital. In one case the cornea was not involved, and the child recovered with good vision; in the other the cornea was lost. The appearances were characteristic; the children at the time had both nasal and throat diphtheria.

Dr. PINCKARD—In my case the nose and throat were not affected at any time, all that was discovered was a little redness. There was no membrane in the nose or throat. The constitutional symptoms were well marked; temperature was 101.5 F., pulse over 100. The morning and evening temperatures were almost the same, not varying half a degree. The constitutional symptoms, after the administration of the antitoxin, disappeared very quickly.

Dr. W. F. COLEMAN—I recollect Dr. Ware speaking of a treatment he tried some years ago in a case of diphtheritic conjunctivitis. Probably he will remember it, and I would like to ask him to mention it.

Dr. LYMAN WARE—As I remember, it was the case of a young child, there being four or five other children in the family. Three of the children died with diphtheria, and the one I attended was only two years of age and had only one eye affected. The case was not a very severe one, only about one-half of the upper tarsal conjunctiva being involved and the cornea slightly opaque. When I say that only a portion of the upper tarsal conjunctiva was involved I mean that the diphtheritic membrane only covered that portion. The entire eye was more or less inflamed. I treated this case with Fairchild's trypsin. Under this treatment the child recovered perfectly. It had no trouble with either the throat or the nose, the disease being confined entirely to the eye. As it was a mild case, it might have done well under almost any treatment that was adopted to save the eye and preserve the conjunctiva.

Dr. A. E. BULSON, JR., of Fort Wayne, Ind.—I think Dr. Pinckard is to be congratulated on the good results obtained by antitoxin treatment of his aggravated case of diphtheritic conjunctivitis. Some years ago, while intubating a child suffering with diphtheria, I had the misfortune to have some of the secretion coughed into the eyes. The conjunctiva soon became intensely red, slightly edematous, and attended by photophobia and marked lachrymation. Prompt and persistent use of cold bichlorid fomentations caused the inflammation to subside. One of my brother practitioners had a similar misfortune several years ago, some of the diphtheritic membrane being coughed into the eyes, producing an aggravated case of diphtheritic conjunctivitis. The persistent use of cold bichlorid flushings and fomentations resulted in complete recovery, though use of the eyes was prevented for several weeks. In this case the systemic disturbance was marked.

We are sometimes in doubt as to whether we have croupous-conjunctivitis or a mild diphtheritic inflammation, and, as mentioned by Dr. Pinckard, the bacteriologic examination does not always throw light on the subject. I think the systemic disturbance is a diagnostic feature of importance, and a history of infection, attended by the characteristic manifestations, makes the diagnosis certain.

From our present knowledge of the beneficial effects of antitoxin in the treatment of diphtheria it would seem that we have in this remedy a specific for diphtheria of the eye. The treatment will result in no harm, even in doubtful cases, and in the marked cases, such as described by Dr. Pinckard, which unusually result so disastrously, give the patient the best chance for saving the eyesight. Local antiseptic treatment, early and continuous, is always applicable, and alone may frequently produce favorable results, but we are not doing our whole duty to the patient if this treatment is not supplemented by antitoxin injections.

Dr. WILLIAM E. GAMBLE—Diphtheritic conjunctivitis is rare in this country, and particularly in Chicago. I have seen but one case. Croupous conjunctivitis is comparatively common. In dispensary practice it is not unusual to see a few cases each year. In these cases we have little fear of injury to the cornea. There is practically no danger to the eye. Comparatively recent bacteriologic research places these cases in the diphtheritic class. It is true the Klebs-Loeffler bacillus does not penetrate deeply into the tissues as in the severe cases, i.e., diphtheritic conjunctivitis, but they are found in the secretions. It seems to me the word "croupous" should be dropped, and the mild diphtheritic conjunctivitis substituted.

Dr. C. P. PINCKARD—I do not know that we have any way of making a positive diagnosis of diphtheritic conjunctivitis. The microscope does not aid us very much. The xerosis bacillus gives exactly the same reaction to the stain that the Klebs-Loeffler bacillus does; it looks the same under the microscope, and without clinic symptoms it would be of no significance whatever. The one fact which settles the diagnosis is the inoculation of rabbits or guinea-pigs, because there is no reaction to the xerosis bacillus, and there is to the diphtheria bacillus.

MYOPIA.

Dr. C. P. PINCKARD also reported this case. Miss M., age 17, was first seen Feb. 6, 1899. Until 1898 she has worn, with comfort, for nine years the following glasses: O. D. + 2.25 ax. 90°; O. T. + 1.50 ax. 90°. Early in 1898 she laid aside her glasses because her vision was just as good without them, and they did not add to her comfort in near work. Until about July, 1898, she noticed nothing peculiar about her eyes, but they began to hurt her, though no great failure in vision was noticed until shortly before I saw her. On examination: r.o.d. cyl. — 4.75 — 1; r.o.s. cyl. — 4.50 — 1. I suspected spasm of accommodation. After using 1 per cent. atropin solution for a week I found: r.o.d. cyl. — 4 — 1; r.o.s. cyl. — 3.75 — 1. The skiascopic mirror gave negative results; the ophthalmometer showed astigmatism, .50 D with the rule.

Not satisfied as to the spasm, 2 per cent. atropin solution was applied three times daily for ten days, but with no change in the results compared to the last examination.

The fundi showed no changes except slight tortuosity of the lower temporal vein in each eye. There was no crescent. The case has been repeatedly seen since, but there has been no change since February 6. The remarkable thing about the case is the total disappearance of such a considerable degree of astigmatism. For many years it was believed that astigmatism did not change, but such cases as this force the conviction that changes are not so uncommon as we thought.

Dr. A. E. BULSON, JR., of Fort Wayne, Ind.—I believe that many people wear glasses that have no relation to the kind or amount of error present. Dr. Pinckard's case reminds me of one that came to my notice a few weeks ago in which a young factory girl came to me complaining that she could not see as well at a distance as she thought she ought, and requested examination to discover the cause of the trouble. Vision was 10/200 in each eye, and slightly improved with — 2 D. cylinder, axis 180°. Under atropin, — 5 D. cylinder, axis 180°, was accepted, and this astigmatism verified with the ophthalmometer. The glasses produced a marked improvement in vision and are worn with comfort. Previous to coming to me she had worn, with reported comfort, but with no improvement of vision, a plus spherical of about 1 D. combined with a plus cylinder of about the same strength, axis 90°. The patient is of phlegmatic temperament, somewhat illiterate, and never knew what it was to see well. While the myopic astigmatism may have been progressive it is more than likely that the error was present at the time the optician adjusted the compound hypermetropic lenses which were tolerated for several years.

Cases of this character are frequently seen in consequence of ignorance on the part of opticians or undue carelessness on the part of ophthalmologists, but it is seldom that a patient will contentedly tolerate a correction of such character for any length of time.

Chicago Medical Society.

Regular Meeting, May 24, 1899.

AN ABSORBABLE INTESTINAL COUPLER.

Dr. JACOB FRANK read this paper. The coupler is more or less familiar to surgeons. Speaking of the Murphy button, he stated that if it were soluble, nothing better could be wished for, but since it is not surgeons will not rest until some material can be used which will dissolve and still carry out all the principles laid down by Denan and later by Murphy. He showed the absorbable coupler, which retains all the good qualities of the Murphy button, and eliminates the only objectionable feature—insolubility—at the same time, possessing one additional point of advantage in being very light, and thus being easily floated by the intestine.

The coupler consists of two decalcified bone collars with four needle-hole perforations at the apex or shoulder of each collar, and one piece of ordinary pure gum rubber tubing, the kind used for drainage, large enough to fit just inside of the coupler. It is prepared for use in the following manner: A collar is slipped over a piece of rubber hose until the apex is brought to a level with the end of the tubing, when an ordinary medium sized curved needle, threaded with silk, is carried through each opening and tied; this, as can readily be seen, fastens the collar to the tube; the other collar is next fitted snugly to the one already fastened, and is then in like manner sewed to the other end of the tube and placed in absolute alcohol until they are to be used. The rubber tubing to which the collars have been sewed, being hollow, serves subsequently for the passage of the intestinal contents after being placed *in situ*. The couplers are made in eight different sizes, the rubber hose corresponding to the size of the coupler.

The bases of the collars, which are formed into a broadened rim, are being held firmly in apposition throughout their entire circumference, after being sewed to the rubber. The intestinal ends are brought over each collar and crowded within the line of junction of the two; of necessity the latter are forced apart and the rubber tube is put upon the stretch, thus affording pressure of adequate amount to cause a necrosis of the interposed intestines. The collars dissolve in due course of time, and but a small piece of rubber tubing is left in the intestinal canal to pass off with the feces. Even if retained, the rubber will become macerated, as it is composed of vegetable substances.

The collars are carved from long compact bones which are obtained from oxen. They are then subjected to the decalcifying fluid, which consists of 10 per cent. solution of absolute hydrochloric acid, and are removed from this fluid in six hours and placed under a stream of cold water for half an hour to remove the salts which have formed. They are then placed in a fresh decalcifying fluid of the same strength, or less, as required, and the process is continued until they are completely deprived of their calcareous constituents, when they are washed with cold running wster, so that all traces of acids and phosphates are removed and the collars have acquired an almost transparent appearance. Then they are practically dehydrated by treatment with pure cologne spirits, and finally immersed in absolute alcohol, which renders them sufficiently tenacious for their purpose. In order to insure against shrinkage they are not sewed together for use until they have been kept in absolute alcohol for one to two weeks.

The coupler is used in the following manner: Murphy's puckering string is placed about each severed end of the intestine, the operator slips an intestinal end over one of the collars, to the line of junction, at the same time gently spreading the collars apart to facilitate the easy access of the gut. An assistant takes charge of the ends of the puckering string, and when the gut has been brought over the collar he makes one knot, and draws down until the puckering ligature strikes the rubber tubing, which he will perceive by the resistance offered; the tube will not permit a too tight drawing of the puckering ligature on account of its resiliency. The second knot is tied and cut short. The other intestinal end is then slipped over the other collar and tied in the same manner. The ligature is cut off short and the clamps are immediately removed, when the operated portion of the bowel will be slowly distended with gas. An interrupted Lembert suture should be taken around the border, with an intestinal needle threaded with a No. 2 silk, to make the work more secure.

MEDICAL EFFICACY OF NOSOPHEN AND ANTINOSIN IN EYE, EAR, NOSE AND THROAT AFFECTIONS.

Dr. JAMES A. LYDSTON presented this paper and reported several cases. He said that among the many products that have been extolled in recent years as possessing superior germicidal and antiseptic qualities, are two chemic compounds, namely, nosophen and antinosin. Nosophen is superior to iodoform as a surgical dressing, either in powdered form or in the form of nosophen gauze, because it can be used with impunity without fear of toxic effects and disagreeable odor, with just as great assurance of germicidal, antiseptic, deodorizing, healing and drying powers. Antinosin being far preferable to iodoform because of its ready solubility in aqueous solution, and its freedom from toxic effect, enables physicians to apply it in pathologic situations not approachable by iodoform or any other antiseptic or germicidal agent, unless used in toxic quantities.

He has found nothing to equal nosophen as a deodorizer of the purulent secretions characteristic of otitis media suppurativa. He has applied nosophen and antinosin in all classes of cases, and has yet to see the case in which the results were disappointing. Catarrhal cases of the nose and throat in many instances have yielded to insufflation of nosophen and irrigations with aqueous solutions of antinosin when other antiseptic applications have utterly failed.

Medical Association of Greater New York.

Meeting held June 12, 1899.

EXSTROPHY OF THE BLADDER.

Dr. JOHN H. BRANTH presented two cases of this condition, one in a boy 9 years of age, and the other in an infant of nine months. They closely resembled each other in all their essential features. The bladder, presenting the appearance of a red, vascular-looking tumor, was seen protruding through the fissure in the lower abdominal walls, the abdominal muscles being behind the vesical mass. On either side of the latter the orifices of the two ureters, discharging the renal secretion over the eroded surface, could be readily distinguished. Beneath the bladder was the epispadic penis, the abdominal fissure, as is constantly the case in this deformity, involving the roof of that organ.

Dr. Branth stated that in all the cases that he had seen the penis was situated above the pubic commissure, and he advanced the theory that in the first weeks of fetal life, when the abdominal cavity is open and the allantois and umbilic vessels communicate with it, and when the bony structures are in a very soft and flexible condition, by some accident the pubic bone tissues are twisted on the horizontal axis in such a manner that the parts going to form the penis—the latter being covered by elements for the formation of true skin—are brought out over the pubic commissure. Thus the skin elements of the penis covering will prevent union of the two sides of the linea alba, the bladder will be pushed through and everted, and so a permanent fissure or non-union of the linea alba up to the point of insertion of the umbilic cord will result. In both the cases it could be observed that the testes had not descended into the scrotum, but were still situated in the groin.

The essentially original plan of procedure which Dr. Branth preferred for the relief of this malformation was as follows: A perineal incision to be made just anterior to the scrotum and below the pubes, and the penis to be drawn out through the incision; the whole bladder to be lowered into the pelvis, behind the pubes, to which it is to be fastened by catgut sutures, the viscus having been previously closed by Lembert sutures and detached from adhesions above. The root of the penis is to be made raw and stitched to the edge of the wound, through which it now protrudes. The bladder being now in its normal position, the tendinous portions of the transversalis and oblique muscles, ensheathing the abdominal recti muscles, can be readily stitched together by a continuous and recurrent suture in order to secure a firm union. In the meanwhile drainage of the renal secretion is to be maintained through the groove in the epispadic penis, the defective urethra. Later on an effort is to be made to build a roof to the urethra. If the above plans should be crowned with success, the attempt would be made to bring down the testes to their proper receptacle.

About three years ago Dr. Branth operated on the boy in the manner described, except that he did not transfer the penis from its abnormal position, nor lower the bladder into the pelvis. The ureters were catheterized by thin rubber tubes, which were carried out over the epispadic penis, so that no urine should reach the bladder. The bladder was closed by Lembert sutures and crowded through the fissure, behind the muscles, into the abdominal cavity. After this the fissure was

closed, the raw surfaces being stitched together, layer by layer, by catgut sutures. All went well until by accident one rubber tube became clogged, and the other tube, as the result of the tossing of the patient on account of an unfortunate attack of toothache, became dislodged, so that the renal secretion was poured over the operative field, necessitating the making of an opening. Partial union had set in, but in a few days nearly everything parted. Something had been gained, however, and that was a thick wall of tissue, so that the patient has since been able to wear a cup for the reception of urine. This would also enable the surgeon to make a stronger suture and secure better union in a future operation than would otherwise have been possible. In the case of the nine-months-old infant, Dr. Branth did not think it would be advisable to attempt any operative procedure until the child had reached the age of 2 years.

Detroit Medical and Library Association.

Meeting held May 22, 1899.

HEMOPHILIA.

Dr. G. W. WAGNER, in this paper, related the history of two cases he had seen and treated while an interne in the Jefferson Medical College hospital, Philadelphia. The first was that of a man, 25 years of age, whose family history showed that there must have been some family taint, as two of his brothers died from hemorrhage. The patient, when in his twenty-first year, had bled for two weeks after the extraction of a tooth. After an accident to the index finger of his right hand, which Dr. Da Costa amputated, bleeding continued in spite of every measure adopted to check it. Dr. Keen finally amputated at the metacarpo-phalangeal joint and cauterized the wound with a Paquelin cautery. The hemorrhage began again at the end of a few hours. The author then suggested the removal of the dressings, leaving the wound exposed to the air, and the use of hot water if necessary. This was done, and in twenty-four hours the bleeding was permanently checked. During the period of hemorrhage the patient's temperature ranged from 99.5 to 101 F.; pulse 120 to 140 per minute.

The second case was that of a boy 4 years old, who had been brought to the out-door department of the hospital, bleeding from a small lacerated wound of the mucous membrane of the upper lip, with a history that he had been bleeding for forty-eight hours. The wound was sutured, but the hemorrhage continued. He was then sent to the author, who turned his lip up so as to expose the wound to the air. It was held in the inverted position by adhesive plaster. The hemorrhage ceased almost instantly. Regarding the treatment the author recommended two measures that are probably original, and had been found useful, viz.: exposure of the bleeding wound to the air, and the inhalations of oxygen, on the theory that a deficiency of oxygen in the blood is one of the main reasons for its slow coagulation.

Erie County Medical Society.

Meeting, June 13, 1899.

This New York society, through its board of censors, is doing good work, according to the report made to the society at its last meeting, June 13. The board reports that during the year since the last annual meeting, all complaints concerning illegal practices have been carefully investigated, not only by the members of this board but also, in some instances, by detectives employed for that purpose. In one case of a flagrant character, that of a man who has for some years been administering medicine to many persons in Buffalo, N. Y., for hire, for cancer and other diseases, without being duly licensed as a physician, it has obtained sufficient evidence for conviction and the defendant has been arrested. It is believed that this man, whose ordinary occupation is that of day laborer on the docks, has accumulated property of considerable value by his illegal practice, and if warranted by the evidence secured, and the board is so advised by counsel, it will, besides prosecuting him criminally, institute a suit against him in the supreme court, to recover numerous penalties of $250 for each offense under the provisions of the law of 1895.

Within the last few weeks a case of more than ordinary importance has come before the United States Court, growing out of the death of a child at Fort Porter, who, it is claimed, died of double pneumonia, under the care of a so-called "Christian Scientist healer," who had been called in to cure this child by its father. The post-mortem examiners' report of the autopsy performed indicated so clearly that the disease had existed for some days, and could have been discovered by the usual methods of examination and diagnosis if the child had been attended by a duly licensed physician of ordinary skill, that the U. S. district attorney deemed it his duty to cause the arrest of the father and mother of the child and of the alleged "healer" on the charge of manslaughter; the United States authorities and not the State authorities, having exclusive jurisdiction of this charge, because the death occurred on a United States government reservation. After a considerable amount of testimony had been taken on these charges before the United States commissioner, this board, after consulting many members of this society, deemed it advisable that its counsel should be required to assist the United States district attorney in prosecuting the medicolegal aspects of the matter. The attorney cheerfully and courteously consented that this should be done, and the board's counsel has given him valuable assistance in prosecuting the case, which on June 12, resulted in the "healer" and the father being held by the U. S. commissioners in $2,500 bail each, to answer the charge of manslaughter at the next term of the United States District Court.

The board also reports that, following the course pursued by the Medical Society of New York County, it has with the assistance of its counsel, caused a list of all the duly licensed and registered physicians appearing on the records of the county clerk's office, to be prepared, and compared with the names of the physicians as they appear in the Buffalo City "Directory" for 1898. It has also prepared and sent by mail to sixty-six persons whose names appear in the directory of 1898, as physicians, but do not appear on the records of the county clerk's office," to be duly registered as such, a circular letter relative to this omission, and has received about thirty replies.

Cleveland (Ohio) Medical Society.

Meeting held May 26, 1899.

WHITE SWELLING OF KNEE.

Dr. W. E. WIRT showed cases treated by first straightening the joint by means of a device of his own design. In tuberculous inflammation of the knee, the joint is held in its flexed position by the spasm of the muscles, and when the limb is pulled straight the tibia is found to be posterior to the line of the femur. This brace was designed to meet this difficulty and keep the bones in line. By its use he has restored joints to usefulness without resection.

LOCOMOTOR ATAXIA.

Dr. C. J. ALDRICH presented a case with ataxic gait, loss of knee-jerk, loss of control of sphincters, Argyll-Robertson pupil, and some rarer symptoms. There was almost complete double recurrent laryngeal paralysis, causing "hour-glass" contraction of the glottis and very husky voice. There was also very marked hyperesthesia of the trunk so that the touch of a camel's hair brush gave pain. Preceding the establishment of his "lightning pains," this man had a fixed pain on the anterior surface of his wrist, for some time. Lastly, he had a very marked intention tremor of the arms.

MODIFIED CYSTOSCOPE.

Dr. L. B. TUCKERMAN exhibited a modification of the ordinary male cystoscope, designed to avoid the frequent accident of the instrument catching by its point at the junction of the pendulous and membranous urethra. The instrument is longer than that ordinarily in use, and the obturator has its point on a level with the upper surface of the tube.

Nitrous Oxid Gas and Oxygen Anesthesia.—At a recent meeting of the Society of Anesthetists, Gardner (*Brit. Med. Jour.*, April 29, p. 1031) pointed out that short operations, such as tenotomy, catheterization, movement of stiff joints, pelvic examinations, etc., can be satisfactorily performed under the influence of nitrous oxid gas and oxygen. After the administration has lasted a few minutes, from 15 to 20 per cent. of oxygen is required to avoid muscular rigidity. The resulting anesthesia is less profound than that of chloroform or ether. Under it there is excitation of reflexes of adjacent limbs, etc., and reflex alteration in respiration. Retching movements and sickness can not be prevented by "pushing" this anesthetic. Florid, alcoholic and muscular men are not good subjects. The administration itself should be achieved only by the expenditure of forty gallons of the mixture over a quarter of an hour.

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SATURDAY, JUNE 24, 1899.

SCARLATINA.

In the tenth series of the "Medical and Surgical Reports of the Boston City Hospital," there is an extensive report by MCCULLOM and PEARCE on scarlatina, as it has been observed and studied in the well-organized infectious wards or South Department of this excellent hospital.

An analysis of 1000 cases of scarlet fever treated in this hospital shows that the percentage of mortality, including moribund cases, was 9.8 per cent. Of the 98 fatal cases scarlet fever was responsible for 56 deaths, bronchopneumonia caused 15, diphtheria and scarlet fever 10, diphtheria 9, pneumonia 4, scarlet fever and erysipelas 1, tuberculous meningitis 1; two died from various complications. If the 42 deaths caused by complications occurring in the course of the disease are eliminated, the percentage of mortality becomes 5.8 per cent. In this 1000 cases a membrane was present in the throat in a large proportion of them, yet cultures showed the presence of diphtheria in only a small number—11.75 per cent.—but the percentage of those giving positive cultures without a definite membrane was 14.4.

Dr. MCCULLOM concludes from the health reports of this and European countries, and from the study of this 1000 cases, that scarlatina is more prevalent in Boston than in some of the large foreign and American cities. Scarlet fever has diminished in frequency in Boston, however, during the past three years, owing to the use of an isolation hospital sufficiently large to accommodate all applicants. This is a very important fact worth noting by other large cities which lack sufficient hospital facilities for acute infectious diseases, as for instance, Chicago. He also finds that the period of isolation in scarlatina, in order to be effectual, shall be continued for a long time—at least fifty days.

As regards treatment, the most important observation is that rest in bed and a bland diet during the first few weeks of illness seemed to be important factors in reducing the renal complications in scarlatina.

In this report Dr. PEARCE considers the results of 23 post-mortem examinations in cases of scarlet fever from Dr. MCCULLOM'S service. Although a careful bacteriologic examination was made of every case, no light can be thrown on the etiology of the disease. The only constant macroscopic change is a hyperplasia of the lymphoid tissues of the body. The anatomic changes in the skin and tongue, which play an important part in the clinic diagnosis, are not usually present post-mortem. Occasionally the tonsil is covered by a false membrane.

Secondary inflammatory lesions of various kinds, due to the streptococcus pyogenes, staphylococcus pyogenes aureus, and the pneumococcus, are frequently found. These micro-organisms are named in the order of frequency of occurrence, the streptococcus being found most frequently in the cases of general infection, and on the mucous membrane of the throat and nose. The most important inflammations due to these organisms are, bronchopneumonia, inflammations of the middle ear, suppuration of the cervical lymph-glands, acute pleurisy, and inflammation of the maxillary sinus. Occasionally pulmonary abscesses, acute endocarditis, metastatic abscesses of the kidney, are seen. Of the complications mentioned, inflammation of the antrum of Highmore is the most interesting. This occurred in three cases, and in two both cavities were filled with pus, the process being a true empyema. These secondary infections of the maxillary sinuses, as well as of the middle ear, are therefore present in scarlet fever in a large number of cases, in many of which it may become the source of chronic processes after recovery.

The histologic examination of the skin, tongue, and oropharyngeal mucous membrane showed inflammatory as well as vasomotor changes. Two forms of focal lesions occur in the liver, one due to the accumulation of phagocytic cells in the capillaries, with consecutive occlusion and necrosis of the included liver cells. The other is a necrosis of the central part of the liver lobule, followed by leucocytic infiltration. In the spleen there is proliferation of the endothelial cells of the Malpighian bodies lining the blood sinuses. Similar changes occur in the lymph nodules and lymph sinuses, and the new cells are markedly phagocytic, taking up leucocytes and other cells into their interior. In the spleen and lymphoid tissue it also appears that plasma cells develop from lymphoid cells.

From the study of the kidneys in these cases it is apparent that the acute interstitial nephritis is the most important lesion of the kidney in scarlatina. This form of nephritis was more marked in four cases dying in the second or beginning of the third week of the disease. The absence of glomerular lesions is explainable because these lesions usually occur later in the disease than the period at which the cases died.

A very striking cellular change in scarlet fever is the production of plasma cells in the spleen and lymphatic glands throughout the body. These cells appear in large numbers in the blood, and emigrate into the tissues of the kidney and the lung. A similar process has been described by COUNCILMAN as occurring in diphtheria, in the acute interstitial nephritis of that disease. The proliferation of endothelial cells and the development of phagocytic properties in the proliferating cells are similar processes to those described by MALLORY in connection with typhoid fever, but not so marked.

PEARCE is not able to definitely determine whether the proliferation of plasma and endothelial cells should be assigned to the toxin of scarlet fever, or to that of the secondary infecting organisms. In more than one-half the cases death occurred on the second or third day, before complications had had time to develop, and this would seem to indicate that the toxin of the scarlet fever itself was the important agent.

The contributions to the pathology of the acute infectious diseases which have appeared from the Boston City Hospital during recent years have been extremely valuable, and very creditable to American medicine. Such contributions from a large public city hospital have been rendered possible by the establishment of well-organized wards for infectious diseases, and of a well-equipped and properly maintained pathologic laboratory.

The trustees of the Boston City Hospital have hereby set a most valuable example, which it is hoped will soon be followed by other similar large municipal hospitals in other cities of the United States. This hospital forms an unique exception to the general official neglect of scientific medicine, characteristic of the majority of the large city hospitals of this country.

INSIDIOUS PLEURISY.

Time was when it was generally believed by the medical profession that pleurisy was due to cold and exposure, and in most instances it was supposed to be produced by very similar causes to those which were thought to cause pneumonia. With the advances which have been made in our bacteriologic knowledge, we have gradually learned that pneumonia in all its forms is due to an invasion of the lung by a micro-organism and that in its most characteristic form it is due to the micrococcus lanceolatus. Even more recently than the discovery that pneumonia is due to systemic infection and is but a localized manifestation of general disease, we have learned that inflammation of the pleura is due to infection by the staphylococcus, streptococcus and bacillus of tuberculosis, and more rarely to other infecting micro-organisms.

These rare forms of pleuritic infection are also very frequently insidious in their onset and therefore are liable to be overlooked by the physician unless he is very careful in his search for pleural complications. One of these insidious forms is that which arises from tubercular infection. Quite frequently, without any history of an acute attack of illness, a patient presents himself to the physician with the physical signs of pleural effusion of greater or less degree, and with no other evidences of pulmonary tubercular infection. The dyspnea and other symptoms which are present as the immediate result of the serous outpouring into the chest, are speedily relieved by aspiration, and frequently a reaccumulation of the serum fails to occur. Such cases should always arouse in the physician a suspicion of tubercular infection, and a careful record kept of such cases extending over a period of months or years will usually show that the pleural effusion has been but the first step in the development of a general pulmonary tuberculosis. This has occurred so frequently in our experience that we are confident of the correctness of this view.

Very much more rare than pleural infection by the micro-organism of tuberculosis is insidious pleurisy due to direct infection of the pleura by the typhoid bacillus. Usually the effusion which results under these circumstances is purulent and it will be remembered that as long ago as 1885 RENDU and DE GENNES,[1] and again, in 1887, FRAENKEL[2] obtained this bacillus from the pus of an empyema, while KEEN[3] collected nine cases of pleural effusion complicating this disease, in five of which the specific organism was discovered. So, too, VALENTINE[4] reported a case of typhoid empyema.

The most recent contribution, however, to this interesting subject, is to be found in the *Journal des Praticiens*,[5] in which the fact that we have already mentioned is pointed out, namely, that pleurotyphoid usually develops insidiously, and is seldom announced by pain in the chest or the development of a chill. When the disease develops in the early stages of the typhoid, the other maifestations of the disease may be so marked and the pleural evidences so lacking that it will be readily overlooked. In the vast majority of cases, however, the pleurisy develops during the stage of decline or during convalescence, when there is less

[1] La Presse Med.
[2] Proceedings of Sixth Cong. for Internal Med.
[3] Surg. Complications of Typhoid Fever.
[4] Berliner Klin. Woch., 1889.
[5] May 20, 1899.

excuse for not recognizing it, attention being called to the condition by the respiratory embarrassment of the patient. The temperature under these circumstances is usually irregular and as a rule not very high, and the physical signs are simply those of ordinary effusion, the diagnosis being confirmed by exploratory puncture.

It is an interesting fact that this type of pleural effusion, unless there is also infection of the ribs by the bacillus of Eberth, usually has a favorable prognosis, whereas that due to tuberculosis is correspondingly unfavorable.

The treatment in both instances is identic and consists in the evacuation of the fluid, and where pus is present and forms persistently, the allowance of free drainage, either through a tube or by one of the more radical operations upon the chest wall, which are designed to permit of the free escape of pus and the closure of the abscess cavity.

ACUTE INFECTIOUS MULTIPLE NEURITIS.

By acute infectious multiple neuritis we understand cases which begin and progress according to the type of an acute infectious disease. They are accompanied with more or less elevation of temperature, general malaise, headache, pains in the joints, swelling of the spleen, albuminuria and the characteristic nervous symptoms. Usually death soon results, often preceded by symptoms of asphyxia. Muscular changes are usually absent, on account of the rapidity of the course. From a pathologico-anatomic standpoint these cases are interesting, because there is found a genuine interstitial neuritis. The nerves appear swollen, grayish-red, and often are the seat of small hemorrhages. Occasionally the nerve appears nodular, on account of foci of cell accumulation and exudation. Microscopically there is marked congestion, perivascular round-cell infiltration, which extends in between the nerve bundles. In some cases the cellular exudation may be so intense that miliary abscesses are formed. At the same time, there is more or less proliferation of the fixed connective-tissue cells. At times the medullary sheath of the nerves disintegrates into granular and scaly masses, in other cases it is quite intact. Such cases have been described by EICHORST, LEYDEN, ROTH and others. So far no micro-organism has been found in the cases which have been examined for the purpose of demonstrating their presence. On this account ROSENHEIM is inclined to attribute neuritis to chemic or toxic substances. In a case recently studied by WOKENIUS, in a girl 19 years old, the symptoms appeared suddenly; an eruption came out on the lower extremities, hands and arms. Soon paresthesia of the hands and feet appeared, and an ataxia of the extremities, accompanied with lancinating pains, ending in paralysis. The paralysis also involved the muscles of the trunk, with the exception of the recti abdominis. There was no distinct disturbance of the electromuscular irritability, and no distinct muscular atrophy. The urinary bladder remained normal; the sphincter ani, however, became paralyzed. Eventually, paralysis of some of the bulbar nerves appeared, leading to dysphagia, etc., and death resulted on the twentieth day, on account of paralysis of respiration. The examination showed a high degree of interstitial and parenchymatous neuritis, similar to the changes already described. The author consequently places this case among the group of spontaneous acute infectious multiple neuritis. In order to determine, if possible, the nature of the infection, careful bacteriologic examination was made of the heart's blood, of the spleen and one of the nerves of the right leg. A micrococcus appeared on the plates from the spleen and the nerve. This coccus resembled the staphylococcus pyogenes albus. Careful histologic examination of the nerve showed groups of granules in its interior which, all things considered, are regarded as micrococci. It is therefore concluded, that in this case an actual localization of micro-organisms had occurred in peripheral nerve-trunks. Attention is called to the exact localization of the infection to the peripheral nerves, because it was found in the microscopic sections that the inflammatory process suddenly ceased at spinal nerve-roots.

COMPULSORY NOTIFICATION OF TUBERCULOSIS.

The question of the compulsory reporting of cases of tuberculosis has been raised in a practical way in Detroit, where a number of prominent physicians are threatened with prosecution for failing so to do, as noticed in the news items in a recent issue of the JOURNAL. It would appear from the reported statements of some of these physicians that they intend to fight the health board and claim that the law was not intended to cover tuberculosis, and that it would be unwise and useless to report their consumptive patients. In some cases it is claimed that the practice would do harm, and one well-known doctor is reported as saying that while most of his failures to report were inadvertent, in one case it was intentional and for the welfare of the patient, and that he should always do the same in like circumstances. Such cases are easily imaginable—especially if there is any chance of publicity from such reporting—and constitute a rather valid argument against it. In fact it is an open question whether in a medical point of view the advantages of compulsory notification in this disease are so great as to justify the rigid enforcement of the law in all cases. It can hardly be justified on the ground of danger to the public, for consumption is very mildly contagious and there is practically no peril in ordinary intercourse or contact with a consumptive. In fact, it is likely there is far more danger in walking a city street on a dusty day. Nor can it

[1] Ziegler's Beiträge, 1899.

be claimed that it will furnish reliable statistics, for only the pronounced cases are diagnosed and the vast number of latent cases will be still ignored. We have all of us probably been repeatedly infected, and a large proportion of us, estimated by some as high as nearly one-half, have, or have had, actual tuberculous processes going on in our lungs, to say nothing of other portions of our economy. In fact if a tuberculin test were applied to the human as it is to the bovine species, it is probable that it would give a far more formidable showing than any system of notification of cases.

The advantage of compulsory reporting must be looked for mainly then in its educational effect on the public as a part of the general warfare against tuberculosis now being instituted and to a limited extent in the registration of pronounced cases. If the latter is to be a matter of public record, its disadvantages in individual cases will be considerable, especially if, as appears to be the natural tendency of the present agitation, any exaggerated notions of the perils of contact with tuberculosis are to be instilled into the minds of the people. It is a misfortune that if such diseases as tuberculosis require compulsory notification, other disorders much more contagious and dangerous to the public welfare in some respects, like syphilis and gonorrhea, can not also come under the same rule. Justice at least would demand as much as this and good sanitary policy no less.

CAUSE OF LAMP EXPLOSIONS.

A curious result has been arrived at in the investigation of the cause of lamp explosions in London, and that is, it is not the worst or lowest-flash oils which are most dangerous, but those of medium grade. For instance, in 15 explosions 11 were caused by medium oils, with a flash-point of from 80 to 88 degrees, and only 4 by oils of from 73 to 80 degrees. At the same time glass lamps are found more dangerous than metal ones, not because they are more liable to break, but because they are cooler; the secret of these apparent paradoxes being that oil vapor is explosive only when mixed with air in the precise proportion of 41 to 50, which is quickly exceeded in the hot metal lamp-bowls, and with the volatile low-flash oils.

DOCTORS AND HEALTH.

The question: "Do doctors and health go together?" is answered in the affirmative by the *Toledo Bee*, which has editorially gone over the facts and statistics. It finds that countries having few physicians, like Russia, have the highest death-rate, while those best provided for, like Holland and the United States, have the lowest. Something might be asked as to medical service, and there is no doubt that in the 120,000, the quality of, so-classed physicians of this country, there are some who deserve no credit for this good result, but without these America is one of the best provided-for countries, as to well-qualified physicians. Great Britain, nevertheless, with half as many to the population, is as well off as to health as we are, considering her crowded condition. There is certainly a surplus of doctors in this country, and considering that our profession is self-destructive in its tendency, that it cuts its own throat, so to speak, with its success, this fact only aggravates the evil. There are apparently enough doctors in the country to make it distressingly healthy.

OVARIOTOMY AND THYROID FEEDING.

The discussion as to the value of ovariotomy, with or without thyroid feeding, in cancer of the breast is still proceeding vigorously in England. Dr. HERMANN, of the London Hospital, thinks highly of the combined method and reports some excellent results, but STANLEY BOYD, who was one of the earliest, if not the first to advocate the operation, is less enthusiastic. He sums up the results to date as entirely negative, so far as cure is concerned; out of some twenty cases seven were temporarily improved, and in three of these the cancer disappeared entirely, for nine, twenty-five and thirty months, respectively, but ultimately recurred and proved fatal in all. Even this amount of improvement is encouraging, especially as many of these cases were in an advanced stage, but the results of the operation seem to be simply due to its effect on the blood-supply and nutrition of the gland, and similar to those obtained by ligating the chief artery, which are notoriously temporary.

MARRIAGE AMONG DEAF.

According to Dr. EDWARD ALLEN FAY, editor of the *American Annals of the Deaf*, it appears that marriage is more common among the deaf in America than in Europe. The number of marriages in each decade of the present century has increased from 1 in the first to 1017 in the ninth. There is a greater tendency on the part of the deaf to marry one another rather than hearing persons, as a result of natural selection. It has been found as well that a smaller percentage of marriages result in deaf offspring when both parents are deaf than when only one is deaf. However, these data belong to the curios of observation, and require the corroboration of statistics with wide range and of a scope greater than that furnished by any census. The principle of atavism certainly needs a more careful study than is accorded to a subject of this nature, fraught with so many modifications and embarrassments. Let it be remembered that the struggle in nature is toward a uniformity of type rather than to deviations.

RELATION OF CERTAIN ORGANS TO SPECIFIC INFECTIONS.

Babes[1] expresses the opinion that the liver may play a variable rôle in accordance with the kind of infection to which the body is subjected. It may restrain the passage of microbes mechanically as a sort of filter; and through the activity of certain cells and their secondary products, it may cause destruction of the micro-organisms. These cells and secretions are not always destroyed by the virus and its poisons, but they may gain entrance into the blood, and they will

[1] Berliner Klin. Woch., April 24.

protect the organism against infection. Finally, the liver may also aid in eliminating, through the bile, antidotal substances derived from distant organs. These substances result either through the reaction between the organism and the special attacking virus or poison, or they are constantly present in the organism, from whose structures they are eliminated in the course of the morbid conflict.

FAME OF AMERICAN MEDICINE.

The fame of American medicine, both human and comparative, is spreading abroad. Almost simultaneously, from such widely-separated parts of the British earth as South Africa and Australia, come reports of experience with Texas fever, corroborating and indeed based on the discoveries, as to its cause and nature, of the experts of our department of agriculture, notably those of Prof. THEOBALD SMITH, now of Harvard Medical. Indeed, his discovery of its means of spread, which had long been a puzzle, seems likely to give it its permanent name, "tick-fever." Both Drs. EDINGTON of the Cape and TIDWELL of New South Wales report most encouraging results already from protective inoculations with the serum of "salted" or recovered animals. The immunity attained is marked, the only drawback being that the mortality from the inoculations is as yet rather high, reaching in some of the Cape series the appalling figure of 17 per cent., but this has been found to be chiefly in old cattle, and curiously enough, in bulls, who are extremely susceptible, and no doubt some means of attenuating the serum can be hit upon after further trials.

THE MICHIGAN MEDICAL BILL.

The medical law which has just passed both houses of the Michigan legislature is an advance on the Illinois statute which goes into effect next month, in that it does not except faith cures or such as cure by mental means without administration of drugs or material remedies. There was such a clause inserted, but it was thrown out by the Senate, and this was concurred in by the conference committee. The bill calls for a mixed licensing board of ten members, who may be selected by the governor from lists of treble the number required, submitted by the incorporated State societies of the respective schools of medicine—regular, homeopathic, eclectic and physiomedical—to be represented on the board. This body can not do business without concurrence of at least seven of its members. License shall be issued to any one who was a regularly registered and licensed physician under the act of 1883, as amended in 1887, or who has a certificate from any other State with equal requirements, or can pass a satisfactory examination in anatomy, physiology, chemistry, pathology, therapeutics, histology, hygiene, public health laws of Michigan, practice of medicine, surgery, obstetrics, gynecology, diseases of the eye and ear, bacteriology and medical jurisprudence. The actual text of the law when published will probably add some points to this abstract of its substance, but it is clear enough that it is along the general lines of medical reform. The quack will find himself without a local habitation ere long, according to the present signs of the times, or at least he will have legal risks to meet if he continues to exist.

FAITH IN STATISTICS.

Our bland and child-like faith in statistics as such is beginning to be shaken at last. And it is high time, for the blind belief that if we can only get any subject or set of facts "down in figgers," and then strike an average, the result is bound to be true, has led us into serious errors. The statistic method is the very soul of modern science, but it is beginning to dawn on us that not only are an intimate knowledge of the subject-matter to which it is to be applied and a critic study of the accuracy of the data recorded, absolutely essential to safe conclusions, but that the method is an art in itself. A mere glance at the beautiful and most valuable work of Professors DAVENPORT and KARL PEARSON, the results of the applications of graphic plotting and the calculus to the study of variation, is enough to prove this and show the inferiority and surprising unreliability of the usual amateur methods. One meets, it is true, with a few terrible terms and phrases, such as "the dissection of an asymmetric frequency-curve," whose "skewness depends upon the heterogeneity of the material" on which it is based, and that we are to test a law of probability "by the graphic expansion of a binomial." But the beautiful clearness of the results abundantly impresses on us the fact that the profitable application of the statistic method requires special skill and training, and that a genuine law of probable occurrence is something different from that broad-ax slash through data which we term an average.

DISPROOF OF PARAXANTHIN POISONING THEORY OF RATCHFORD.

"Toxemic theories, to account for the origin of functional nervous disorders, have had a great fascination for physicians of our generation." While physiologic chemistry is the science to which medicine will next look for guidance, it is very evident that even the chemists are yet groping in the dark and that the boundaries of our ignorance are just beginning to be defined. The symptoms of uremia are not due to urea; in spite of HAIG'S ingenious speculations, which seem to appeal to many, the symptoms of lithemia are not from the uric acid, and PUTNAM and PFAFF,[1] from whom the above is taken, show that the paraxanthin theory of migraine, epilepsy and asthma is equally groundless. The laborious investigations of PFAFF, of the urine of five epileptics, controlled by the examination of 5000 liters of normal urine, failed to corroborate RATCHFORD'S claim that paraxanthin, which is normally present in the urine in small quantities, is enormously increased after attacks of epilepsy, migraine and asthma. PFAFF found that the urine under such conditions, in regard to this substance, was in no way different from the normal. RATCHFORD'S so-called "final fluid" contained no crystals of paraxanthin, but large quantities of ammonium compounds. Water

[1] Jour. Boston Soc. of Med. Sci., April; JOURNAL, June 3, p. 1248.

containing the same amount of ammonia as RATCHFORD'S "final fluid" gave the same action on mice as RATCHFORD'S fluid. The writers further emphasize the fact that only chemically pure substances should be used in animal experiments, when such experiments are to be of any value.

CENTENARIANISM.

Again a pleasing delusion has crumbled under the ruthless hand of scientific criticism. The popular belief in the ease and frequency with which the human race reaches the age of 100 years is firm and wide-spread. Scarcely a neighborhood has not had its local "centurion," as Mrs. PARTINGTON calls it, while ages of 125, 150, and even 175 years are recorded with the utmost gravity. Several of these have passed into the enclyclopedias, such as the famous "OLD PARR," who is credited with 159 years, and an agricultural laborer, named JENKINS, who died at the amazing age of 168 years. The subject has just been taken up in an interesting little volume, by Mr. YOUNG, late president of the Institute of Actuaries, who has most carefully collected and sifted all the instances of centenarianism, recorded in England, with the result of finding that the vast majority of them are utterly unsupported by any trustworthy evidence whatever. Out of hundreds of recorded cases, he finds only twenty unquestionable instances of the attainment of 100 years of age, and the oldest of these was a widow, who died in February, 1897, aged 105.

PARR and JENKINS, he scouts utterly, showing that the only evidence of the latter's age was a statement "as he hoped to meet his God" by the venerable man himself, that he was between 160 and 170 years of age. And this is a fair sample of the evidence in most of these cases. Mr. WRIGHT'S findings absolutely corroborate those of all who have systematically studied the subject. It has long been noted by the profession that three-fourths of the alleged centenarians are either savages, negroes, or farm laborers from remote rural districts; in other words, people who have either no conception of the accurate measurement of time, or no records worthy of confidence. Indians and negroes are peculiarly favorable subjects for myths of this description, on account of the way in which they collapse in old age, many of them looking as old and decrepit at 60 as white men at 90, and records dating from "the year of the great snow," or "sence de ribber busted troo de lebbee" are of no value whatever. As for the parish and other records often kept in rural districts, after a name has once broken out in a family it goes on repeating itself, with mechanic regularity in every generation, often several times in one generation, so that an "ABEL JENKINS" could be found on the register, within five years of almost any given date.

TUBERCULOSIS IN PRISONS.

The recent enterprise of the *Chicago Tribune* in collecting and publishing statistics of tuberculosis in a number of State penitentiaries and the bad eminence given to the Illinois prison at Joliet by that report, has called out a lengthy article by Dr. R. J. CURTIS of Joliet, in the same paper. In it he reviews the medical history of the prison from the physicians' reports, and shows that while the medical management has not been altogether unprogressive, and has indeed kept fairly up to the times, there has certainly existed an unsanitary state of affairs, and the prison must be considered as rather badly infected with tuberculosis germs. While the lives of those there confined are not the most valuable to society, it is certainly true that any undue ratio of mortality is a discredit to the management and to the State. If a convict is not sentenced to capital punishment it is a wrong to force him to needlessly incur the risk of a fatal but preventable disease. In one thing it seems to us Dr. CURTIS has erred to some extent—in underestimating the importance of pardons as affecting the mortality statistics. It would be easy to reduce the mortality in this way and there is little doubt that it is done. In fact, the governor of one State is reported as publishing his intention to pardon all hopeless consumptive convicts, and if he carries this out it will be easy for him to reduce the mortality reported from this cause in his State prison to absolutely nothing, while really not altering the actual conditions. This is a point that has to be considered in estimating the value of statistics such as those published by the *Tribune*. Considering also the probability, and it is a real one, that a very large proportion of convicts are physical defectives who, if not already carrying the germs of tuberculosis, are less naturally resistant to it than the normal individual, any very low death-rate from this cause in a prison might lead us to reasonably suspect some working factor like the above in operation.

SYPHILITIC MASTITIS.

This rare disease may occur in the secondary as well as the tertiary stage of syphilis. In the secondary, it assumes the form of a diffuse, tender swelling, without involvement of the skin; it is relatively not rarely observed in men. The mastitis of the tertiary period mostly affects women; has generally been regarded as gummous and may be present in one or both breasts. As sketched by NEUMANN[1] there springs up during the course of six or eight weeks, swellings as large as a hen's egg, or larger; at first, tense and nodular, a disintegration advancing from the center may reach the skin by extension and cause ulcerative destruction, the defect, perhaps, ultimately becoming replaced by a deep radiating scar. This form is also observed in congenital syphilis. REINECKE[2] had the good fortune to examine a syphilitic mastitis after death. The patient, a woman, aged 37, died from uremic coma; the kidneys and spleen were extensively amyloid, the liver the seat of gummas and deep scars. The upper half of the left breast was very hard, the tissue on the cut surface dry, while numerous red or yellowish red pinhead-sized and larger circumscribed foci projected above the cut surface; there was a similar smaller area in the lower

[1] Nothnagel's Spec. Path. Therapie, xxiii, 1896.
[2] Centralbl. f. Allg. Path. u. Path. Anat., x, p. 316.

half. These red, firm nodules were found to be due to proliferation of the interlobular and intralobular connective tissue, with degeneration and destruction of the glandular cells, whose place was being taken up by connective tissue. The vessels were markedly thickened, especially the arteries. Here, there was then, a chronic proliferative inflammation, with overgrowth and sclerosis of the connective tissue and atrophy and degeneration of the glandular structures. There were no foci of suppurates, no tubercles, no gummas in the strict sense. The tissue did not contain any bacteria. This form of mastitis must, therefore, be interpreted as an interstitial or indurative mastitis of tertiary syphilitic origin. Similar indurative processes of syphilitic origin, but without any special or specific peculiarities, also occur in the other organs, as for instance, in the pancreas in congenital syphilis, as described by BIRCH-HIRSCHFIELD; in one such case he found a distinct gumma. LANCEREAUX and ORTH have described indurative changes in the submaxillary gland, and foci of interstitial proliferation in the myocardium occur in congenital syphilis; and fibrous induration and glandular atrophy of the testicle due to syphilis are known, as well as the development of gummas in the organ. The changes in the mammary gland described by REINICKE resemble those of fibrous syphilitic orchitis very much. Hence, it may be concluded that in addition to the gummous mastitis of tertiary syphilis, there also occurs an interstitial indurative form, which, perhaps, is often regarded as a simple chronic mastitis, on account of the absence of certain coarse anatomic peculiarities.

LABORATORY DIAGNOSIS OF DIPHTHERIA.

JOHNS[1] reviews practically the value of examinations of pseudomembranes of the throat. He notes particularly the sources of error; that the fault of not finding the Klebs-Loeffler bacillus in undoubted cases of diphtheria more often lies with the physician preparing the swab than with the bacteriologist making the examination. Among the causes said to interfere with subsequent examination may be mentioned the almost universal habit of treating the throat with some strong antiseptic before attempting to obtain a culture; if the superficial bacilli are not killed by this, the cotton swab certainly absorbs some of the antiseptic solution and this may cause the death of many of the specific bacilli if present. The tube may have been washed with an antiseptic, and some of this being retained in the tube may interfere seriously with subsequent growth; JOHNS rightly says that the only safe way of preparing these tubes is sterilization by heat. One point to which but little attention has been given, but which deserves much consideration, is the habit of carrying the inoculated culture-tube around in the coat pocket for hours before it finally reaches the incubator; the rapid growth of the saprophytes under these conditions entirely overshadows that of the Klebs-Loeffler bacillus. When blood-serum tubes are employed the accidental contamination by a large number of the bacillus subtilis may so liquefy the medium as to almost exclude identification of the diphtheria germ. JOHNS recommends both solidified blood-serum and bouillon for the inoculation of cultures, and examines in from twelve to twenty-four hours by the usual methods. He also claims that an acid reaction occurring about this time, changing subsequently to an alkaline and remaining so, is of value in testifying as to the presence of the sought-for germ. He finds the Klebs-Loeffler bacillus does not prove true diphtheria, as all bacteriologists are now agreed; further than this, the general consensus of opinion now is that inoculation of animals must be performed in order to prove the pathogenesis of the suspected bacillus. JOHNS uses the guinea-pig and inoculates cultures of about twenty-four hours' growth. These sources of error are particularly interesting in view of the fact that negative reports are being constantly returned by the various city health departments in undoubted cases of diphtheria. In this manner not only are city statistics as to the prevalence of diphtheria in certain districts lessened in value, but the necessary precautions for preventing the spread of the disease are neglected or are performed perfunctorily. Another source of error which might have been added to this list is that many physicians merely twist the swab around in the mouth several times without attempting to strike the membrane; others, their patients not wishing to be proscribed by the health-department tag marked upon their houses, obtain a culture from other sources than the patient himself, while there are, alas, still remaining not a few skeptics regarding the germ theory of disease.

[1] Philadelphia Monthly Medical Jour., April.

BACTERIOLOGIC FLORA OF THE LUNGS.

When the pathologist studies the etiology and genesis of an infection, he utilizes the results of the bacteriologic and histologic examination, as well as the clinic observations, in order to form an opinion concerning the disease and the causes of death. Now, there are various sources of error, especially in the bacteriologic examinations of organs after death, which must be carefully eliminated, and among these sourses of error the post-mortem or agonal invasion of the tissues or organisms from the intestines has long been held as an important one. The relation of the lungs to more or less wide-spread agonal invasion of bacteria, especially from the higher tracts, has not been carefully considered. LUCIEN BECO[1] took up this question and found that the respiratory tracts of ordinary laboratory animals are nearly always sterile from the center of the trachea downward; occasionally he found a non-virulent micrococcus lanceolatus in the lungs of the cat. Among the domestic animals the lungs are nearly always sterile, but occasionally they contain a feebly virulent pneumococcus. Suitable animal experiments indicated that bacteria do not readily descend into the lungs after death when the bodies are kept at a temperature of about 15 degrees C. for even as long as four days, hence it would be proper to regard that the results of the bacteriologic examination of human lungs after death under ordinary

[1] Arch. de Méd. Expériment., May, 1899.

conditions would give valuable results. Other experiments further showed that when the lungs are infected before death the germs may rapidly invade the neighboring organs after death; this is especially true of saprophytic organisms, while the emigration of pathogenic forms is more slow. The examination of the healthy human being at the autopsy, under ordinary circumstances, gave the following results: While the lower respiratory passages may be sterile, they may, even when apparently wholly normal, contain well-known pathogenic microbes such as the pneumococcus, the streptococcus, and more infrequently, the staphylococcus. These are the usual causes of bronchopulmonary infections. It is quite likely, therefore, that during the last few hours of life bacteria may pass from the upper to the lower respiratory tract—a fact which must be carefully considered in the bacteriologic examination of the lungs at the post-mortem.

Medical News.

DR. JULIUS STUMPF of Werneck has been appointed professor ex. of legal medicine at Würzburg.

DR. JOHN K. MITCHELL of Philadelphia recently gave a clinic before the Bradford (Pa.) County Medical Society.

REUNIONS of several classes of the medical department of the University of Pennsylvania were held during the past week.

DR. ALFRED S. RUMMELL, Geneseo, Ill., has been appointed assistant-surgeon of the Sixth Regiment, Illinois National Guard.

THE FRANKFURT Institute for Serum Testing will soon be completed, when the present establishment at Steglitz will be removed there.

ON JUNE 7, Cornell University Medical College held its first annual commencement. There were fifty-eight in the graduating class, twelve women.

DR. ROBERT GARRETT has been appointed first arsistant and Dr. Jos. K. Shriver, clinical assistant at Maryland Hospital for the Insane (Spring Grove Asylum.)

THE LACAZE prize, of the value of $2000, for the best contribution to the study of typhoid fever, has been awarded by the Paris Medical Faculty to Dr. Widal, professeur agrégé.

DR. JAY C. KNIPE has been elected to the consulting staff of the ophthalmic and aural department, and Dr. David Riesman, consulting physician, of the Jewish Hospital, Philadelphia.

BY THE will of the late Elizabeth Fitzpatrick, the following Philadelphia institutions become beneficiaries in the sums named as follow: St. Agnes Hospital, $1000, St. Mary's Hospital $1000.

THE Medical Association of the Greater City of New York has adopted in its by-laws a section providing that the "Code of Ethics of the AMERICAN MEDICAL ASSOCIATION" shall constitute the code of the new association.

DR. W. F. BRUNNER of Savannah, Ga., has been offered the appointment of health officer of that city, vice Dr. J. C. Le-Hardy resigned. Dr. Brunner is identified with the U. S. Marine-Hospital Service of the city named.

BY THE will of the late R. C. Billings of Boston, the Massachusetts General Hospital, New England Hospital for Women and Children, Roxbury and Massachusetts Charitable Eye and Ear Infirmary of Boston each receive $50,000.

THE MEDAL of the Christiania Academy of Sciences was awarded this year to Dr. A. Mjöen, for his research on the subject of northern tars, and in particular his discovery that creosote can be obtained from sawdust, which will much cheapen its production.

DR. EDWARD N. BRUSH, superintendent of the Shepard and Enoch Pratt Hospital, who has filled for several years the chair of psychiatry at the Woman's Medical College, Baltimore, has been elected to the same chair in the College of Physicians and Surgeons.

THE SANITARIUM for sick babies, Lincoln Park, Chicago, supported by the fresh-air fund, opened for the season of 1899, June 19. Last summer the sanitarium cared for 9242 babies, 8292 mothers and 34,916 children. Everything at the sanitarium is absolutely free.

THERE WERE thirty-two graduates in medicine at the Johns Hopkins commencement on June 13. Two were women, from California and Ohio respectively. The address to the graduates was made by Herbert Putnam, librarian of congress, who spoke on the congressional library.

ACCORDING to a private letter received in New York and printed in the *Philadelphia Ledger*, an epidemic of typhoid fever threatens those at the headquarters of General Lee in Cuba. In six days, from June 1 to June 7, the number of cases of typhoid fever had increased from 26 to 42.

THE NEW building of the St. John's Guild's Seaside Hospital at New Dorp, Staten Island, was dedicated June 16, though it will not be opened for the reception of patients until the early part of July, when the two floating hospitals of the guild commence their trips for the summer season.

THE NINETEENTH annual reunion of the Alumnæ Association, Northwestern University Woman's Medical School, Chicago, was held June 15. The following officers were elected: president, Dr. Julia Cole Blackman, Geneva, Ill.; secretary, Eliza H. Root; treasurer, Dr. Mary C. Holister.

THE ADVERTISING and sale of the "Volta Cross," a kind of electric belt, has been prohibited by the authorities in Austria, not only on account of the deception of the public by its reputed magic healing powers, but also on account of the cutaneous troubles that may arise from wearing the copper and zinc next the skin.

THE PRINCIPAL subject to be discussed at the next French congress of surgery is total abdominal hysterectomy. Dr. Ricard is to deliver the address, and he appeals to his confrères generally to send him their personal statistics and any observations suggested by experience. His address is M. Ricard, 68 rue Pierre-Charron, Paris.

THE NEW YORK legislature of 1899 gave the Craig

Colony for Epileptics appropriations aggregating $105,000. The plans for the new dormitory buildings —cottages to provide for twenty-four to twenty-eight patients each—are being made by the architects for the new consolidated library in New York City. When the above appropriations have been expended, the capacity of the colony will be 850 patients.

GEN. LEONARD WOOD, whose medical acquirements and executive ability in sanitation have won for him much regard from the war department as military governor of Santiago Province, has been granted a leave of absence. His intention is to bring his family back to the United States and then to return to his post. The residence of his family is to be somewhere on Long Island, N. Y.

AT THE distribution of honors on the occasion of Queen Victoria's birthday, the medical profession was not entirely forgotten. J. Burdon Sanderson, professor of medicine in Oxford University, was created a baronet, and Prof. Michael Foster of the University of Cambridge, was made a K. C. B. Each of these men is well known as a physiologist. Mr. William Mitchell Banks, the Liverpool surgeon, received a knighthood.

THE PARENTS of the late Dr. Joseph W. Stickler will erect a free public library building at Orange, N. J., as a memorial. The structure where the library is now deposited is not adapted to the requirements, and the building to replace the same is to be fire-proof and of great architectural beauty. A special alcove of the proposed building is to be set apart for the deceased physician's collection of works on bacteriology and phthisis.

THE ILLINOIS State Board of Health is preparing to enter on a crusade against the "Independent Medical College," the "Western University" and other diploma-selling institutions. The new law, which goes into effect July 1, will make a comparatively easy matter of what has heretofore been almost an impossibility. It is certainly to be hoped that this traffic, which is a disgrace not alone to Chicago but to the whole country, may be stopped for all time.

AT THE meeting of the Chicago Medical Society, June 21, the annual election of officers resulted as follows: President, Junius C. Hoag; first vice-president, Henry B. Favill; second vice-president, Hugh T. Patrick; secretary, Arthur R. Edwards; treasurer, S. C. Plummer, Jr.; neurologist, Herman Peterson; trustees, John M. Dodson, A. D. Bevan and Sanger Brown; judiciary committeeman, Dr. Bevan; publication committeeman, Frank Billings; auditing committeeman, F. S. Johnson.

APPOINTMENTS in the National Guard of Pennsylvania have been made as follows: Dr. F. R. Packard of Philadelphia, to be surgeon with rank of major, Second Regiment; Dr. R. W. Montelius of Northumberland, to be assistant-surgeon with rank of captain, Second Regiment; Dr. J. N. Henry of Philadelphia, to be assistant-surgeon with rank of first lieutenant, Second Regiment; Dr. Walter Boarman of Lancaster, to be assistant-surgeon with rank of first lieutenant, Battery C.

MISS KATHERINE BLACKISTON, Chestertown, Md., who married Dr. Alfred Stillé, ex-president of the ASSOCIATION (see JOURNAL, June 17, p. 1396), has for many years been a contributor to leading daily papers and periodicals. During the Civil War she was an angel of mercy to Confederate soldiers, making many visits to Fort Delaware, carrying delicacies and necessaries to the prisoners, and her home was an asylum for any foot-weary soldier who came along. About eight years ago she came to Chestertown, and with her sister occupied a rose-embowered home at the foot of the Washington College campus.

MANY and priceless as are the uses of the hemocytometer, we little thought to see it adapted to advertising purposes. But this has actually occurred; a party of tourists setting off for a cycle tour in the west of Ireland had their blood examined "before" and "after," with the result that the number of reds goes up enormously. An enterprising railroad supplying the district, the air of which proved so beneficial, has secured the results and is including them as a leading item in its summer booklet of tours. Holiday and health resorts may thus be neatly and accurately graded, according to their rate of increase of erythrocytes per week.

DR. BENJAMIN LEE, secretary of the Pennsylvania State Board of Health, has recently distributed circulars to school boards relative to the power given them by the new law, passed by the last legislature. It is believed that school boards generally may become more efficient in matters pertaining to the prevention of disease and for this reason additional powers have been granted them. It is pointed out that since the first of January, in this State, there have been 276 cases of smallpox, with 16 deaths, and this is one disease under control, to a large extent, of these boards.

THE COMMITTEE on the nomenclature of tubercular lesions, appointed by the Pathological Society, London, Eng., as a result of the discussions on pseudotuberculosis, have made an interesting report. They recommend that in view of the great confusion arising from the use of the term "tubercle" in two distinct senses, with the resulting twenty to thirty varieties of "pseudotuberculoses" described, its use in the anatomic sense should be dropped and the term "nodule" substituted for it; tubercle and tuberculosis to be confined to the disease produced by Koch's bacillus, and all lesions anatomically "tubercular" to be termed "glanders nodule," tubercular nodule," "aspergillar nodule," according to the cause.

ON ACCOUNT of the unsuitableness of the present location of the truant school on East Twenty-second Street, New York City, for the enforcement of the compulsory education law, a country site is to be chosen, probably in Westchester County, where it is proposed to secure at least ten acres of land, and erect, in addition to the school proper, a commodious building, providing dormitories, shops, game rooms, a gymnasium and a library. The greater part of the land, however, will be devoted to farming and gardening, and each boy will be given a plat of ground to cultivate, for the care of which he may perhaps be paid some small sum; and it is possible that pupils not truants will be received and given training in agriculture and horticulture.

PLANS ARE said to have been consummated for the creation of a college of comparative medicine at Harvard University. The plans, if carried out, will con-

solidate the Harvard Medical School, the Harvard Veterinary School and the Harvard Dental College. The study of comparative anatomy will be a prominent feature of the enlarged university, and a special laboratory will be erected for its study. It is also proposed to erect a hospital for animals. It is reported that the college of comparative medicine is to be separate from and superior to the colleges of medicine, yet to be closely associated with them. A series of departments are to be created, with skilled specialists at the head of each. Degrees are to be conferred which will outrank those ordinarily given by medical, dental or veterinary schools.

IN APPLYING an extension bandage to a fractured hip on a child of 1¼ years of age, the family physician, Dr. L., Charlottenburg, mistrusting his own skill, called in Dr. Karewski to apply it. Dr. L. inspected the bandage the following and fourth days. On the latter occasion he noted evidences of undue compression and altered the bandages, but the local process developed into gangrene requiring amputation, and the parents sued Dr. L. for damages. He was acquitted by the court on the ground that a mere general practitioner could not be expected to know the technic of bandaging. Dr. Karewski, on the other hand, was severely censured. The German medical press are highly indignant at this reflection on the ability of the general practitioner, driving the public to specialists, and urge the practitioners to a general protest.

MEDICAL WOMEN are slowly but surely making their way in Germany. The recent decision of the Federal Council that women can be admitted to the State examinations in medicine, pharmacy and dentistry, is accepted as a great concession, although there are many difficulties to be overcome before they can fully profit by this privilege. The men students at Halle, where women are admitted on practically the same terms as men, created quite a sensation, not long ago, by formally protesting that they were losing precious opportunities for acquiring knowledge on account of the restraint imposed on the professors by the presence of women at the lectures: mentioning as one among many instances that when an anatomic point was to be indicated on a subject, it was indicated through the sheet, instead of with the sheet drawn down. They appealed to the students of all other universities to maintain their rights to lectures, free from the presence of women. The protesting students were severely reprimanded.

AN INTERESTING case was last week presented before Judge Audenried of the Court of Oyer and Terminer, Philadelphia, which has a bearing on the subject of compulsory vaccination as it applies in the case of school children. The case was one in which a mandamus had been issued against a principal in one of the public schools, commanding the principal to appear and show cause why the child should not be admitted to the school. It was claimed by the defendant that to admit the child would be violating the act of June 18, 1895, requiring that all children should be vaccinated before admittance to the public school. In the mandamus it was averred that the act was unconstitutional in that it would necessarily inflict a disease on the child, and further that vaccination does not protect against smallpox nor prevent its spread. It was cited, however, by two judges previously, that vaccination would prevent an inoculated person from contracting smallpox or escape with a mild form of it. On the other hand, the points were hotly contested, the claim being made that authorities were divided on the question. The end of the case is not yet in sight.

Public Health.

Importation of Plague.—There is little danger that the plague will be imported into Europe by vessels from infected ports, as the quarantine and sanitary measures are rigidly enforced, especially since Egypt has been declared infected. But Brouardel states that Europe is constantly menaced by two other modes of contagion: by the Turkestan-Afghanistan-Russian route on one hand, and by the countries along the Persian Gulf and Turkey on the other. The danger from Turkey is especially great, as it would be almost impossible to stamp out an epidemic there as the Russians have recently so successfully accomplished in the Samarcand district. The establishment of a sanitary post somewhere on the Persian Gulf is imperative and is now planned, setting an impassable boundary at this danger point.

Sick Insurance and Sanatoria in Germany—The enormous efforts that have been made in Germany during the last five years to establish sanatoria for the consumptive poor are due not so much to disinterested benevolence as to the system of compulsory sick insurance under state control, which was inaugurated in 1881. The sick-insurance societies find that they have thousands of tuberculous policy holders on their hands to support, and that it is far cheaper to adopt measures that will restore their working capacity than to continue to support them indefinitely. Every working man in Germany is compelled by law to subscribe to some one of the "Kassen," the assessment deducted from his wages, if necessary. There are eight kinds: local, trade, factory, etc., and the policy holder is insured first against accidents or illness from which he recovers in the course of thirteen weeks, during which time he is paid half the average wages of workmen of his class, or, if he is in a hospital, half this amount is paid to his family. There is also insurance against illness continuing more than three months, against any incapacity, mental or physical, for wage-earning work, and an old-age pension paid to persons over 70. The "Kassen" are so organized that no one receives an indemnity from more than one at a time, and the expense is shared by the employer, the employe and the state, each of which is thus directly interested in promoting the health of the laboring classes. All the employers in each branch of industry pool their expenses from this account, and each pays pro rata according to the number of workmen he employs and the special risks in his establishment. The "Kassen" are gathering extremely important statistics and information in regard to accidents, their effects and numerous other points, and may be the means of discovering and preventing epidemics. They compel the policy holders to attend promptly to commencing and curable illness, with even the power to send them to a sanatorium against their will. When an accident occurs, the only question raised is whether it occurred to the workman in the discharge of his duty. The whole scheme has proved practicable and far-reaching in its benefits, except to the medical profession, who are hampered and impoverished by the "Kassen" rates and regulations and the abuses that creep in, and are constantly discussing measures to secure a uniform and equitable position in regard to them.

Health Reports.—The following cases of smallpox, yellow fever, cholera, plague and leprosy have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended June 10, 1899:

SMALLPOX—UNITED STATES.

California: Los Angeles, May 27 to June 3, 1 case, 1 death.
District of Columbia: Washington, May 27, June 10, 2 cases.
Florida: Jacksonville, June 3 to 10, 5 cases.
Illinois: Chicago, June 3 to 10, 1 case.
Indiana: Evansville, June 3 to 10, 3 cases.
Kansas: Emporia, May 24 to 31, 6 cases; Morton County, May 1 to 31, 12 cases, 3 deaths.
Kentucky: Louisville, June 3 to 10, 5 cases.
Louisiana: Baton Rouge, May 20 to 27, 1 case; New Orleans, May 27 to June 10, 5 cases.
Massachusetts: Boston, June 3 to 10, 2 cases, 1 death; Chelsea, June 11, 3 cases; Fall River, from outbreak to June 13, 32 cases.
Minnesota: Albany, June 3, 4 cases; Inver Grove, June 3, 1 case; Minneapolis, June 3, 2 cases; St. Paul, June 3, 1 case.
Missouri: St. Louis, June 5 to 12, 5 cases.
Nebraska: Omaha, May 27 to June 3, 1 case.
New York: New York, June 3 to 10, 3 deaths.
Ohio: Massillon, May 27 to June 3, 1 case.
Oregon: Portland, June 13, 1 case.
Pennsylvania; Pittsburg, June 3 to 10, 1 case.
Virginia; Danville, June 7 to 14, 19 cases; Newport News, June 8 to 13, none; Norfolk, June 8 to 14, 1 case; Portsmouth, June 8 to 14, none.
Washington: Seattle, May 26 to June 2, 1 case.
Wisconsin; Milwaukee, June 3 to 10, 2 cases.

SMALLPOX—FOREIGN.

Africa; Sierra Leone, May 4, 40 cases.
Belgium; Antwerp, May 20 to 28, 2 cases, 4 deaths.
Brazil; Bahia, May 1 to 20, 3 cases; Rio de Janeiro, April 21 to May 5, 26 cases, 19 deaths.
China; Hongkong, April 22 to May 6, 5 cases, 4 deaths.
Egypt: Cairo, May 20, 5 deaths.
England: London, May 13 to 27, 2 deaths.
India: Bombay, April 29 to May 16, 12 deaths; Calcutta, April 29 to May 6, 2 deaths; Madras, May 6 to 12, 1 death.
Greece: Athens, May 20 to 27, 21 cases, 6 deaths.
Japan: Nagasaki, May 9 to 16, 1 case.
Mexico: Chihuahua, May 27 to June 3, 1 death; Mexico, May 28 to June 4, 6 cases, 3 deaths.
Netherlands: Rotterdam, May 27 to June 3, 1 case.
Russia: Moscow, May 6 to 20, 41 cases, 10 deaths; Odessa, May 20 to 27, 7 cases, 2 deaths; St. Petersburg, May 13 to 20, 11 cases, 1 death.
Turkey: Syria, Beirut, May 6 to 13, 2 cases.
Uruguay: Montevideo, April 22 to 29, 1 case.

YELLOW FEVER—UNITED STATES.

Louisiana: New Orleans: May 28 to June 3, 1 case, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Bahia, April 30 to May 20, 218 cases, 65 deaths: Rio de Janeiro, April 21 to May 5, 93 cases, 59 deaths.
Colombia: Panama, April 26 to June 8, 4 cases, 1 death.
Mexico: Tampico, June 4, 1 case; Vera Cruz, May 25 to June 8, 132 deaths.

CHOLERA.

India: Bombay, May 2 to 16, 6 deaths; Calcutta, April 29 to May 6, 23 deaths.

PLAGUE.

China: Hongkong, April 29 to May 6, 98 cases, 86 deaths.
India: Bombay, May 2 to 16, 614 deaths; Calcutta, April 29 to May 6, 85 deaths.
Japan: Formosa, Tamsui, March 29 to April 12, 476 cases, 353 deaths.

LEPROSY.

Cuba: Matanzas, June 6, 1 case.

Necrology.

THOMAS OSMOND SUMMERS, M.D., St. Louis, Mo., on the evening of June 13 committed suicide by shooting himself through the head. Dr. Summers was a volunteer surgeon during the late war, and with the rank of major had charge of the fever hospital at Santiago. Fancied lack of appreciation of his efforts, on the part of the Government, produced an abnormal despondency, which caused him to take his life. Dr. Summers was born in Nashville, Tenn., about forty-seven years ago, and graduated from the medical department of the University of Nashville in 1871. For some years he was professor of anatomy in the Vanderbilt University, and at his death held a similar position in the St. Louis College of Physicians and Surgeons. He was for some time editor of the *St. Louis Clinique*, and did considerable medical journal writing. The suicide seems to have been premeditated, as several letters were found which had been written preparatory to the commission of the act. The deed was done in his lecture-room. The following poem, pathetic and beautiful under the circumstances, was written, supposedly, just before death:

PERDIDI VITAM—VALE, MUNDE!

Good-night, old world—good-by to all your joys,
Your sorrows, pleasures, passions, pomps and noise.
I leave you for the eternal silence of the stars,
The deafness of unbounded space, where bars
No longer hold the soul in durance vile,
Where naught can wound and nothing can defile:
Where the pure spirit shall despise the things
The sense on earth hath loved. On wings
Bathed in the ether of eternity—
How sweet to feel from every passion free—
And yet it is an awful leap to take!
Into the great unknown, perchance to wake
To greater woes, indeed, than those we have
And hoped to bury in the silent grave.
But still the great majority is there.
Why should we, then, turn pale with fear?
Or tremble when the hour supreme has come,
As soon or late it must? Man's final home—
The grave—at least gives rest from troubles here.
And we may hope for sweet oblivion there.
Then, Charon, come! I signal thee to-night.
Come—row me o'er the Styx, I've lost life's fight.

OSMOND.

On the reverse side of the sheet on which the poem was written appeared:

"And yet it is an awful leap to take into the great unknown."

LAWRENCE SWAN WOODHULL, M.D., Long Island College Hospital, N. Y., 1896, died at his home in Brooklyn, N. Y., June 8. He was born in Huntington, L. I., twenty-five years ago, was educated in the Polytechnic Institute and the Brooklyn Latin school and traveled with a tutor for several years.

EZRA REED PULLING, M.D., Coll. Physicians and Surgeons, N. Y., 1853, died in New York June 5. He was the son of Dr. Josiah Pulling and was born in Saratoga County, N. Y., February, 1828. During the Civil War he was an acting asst-surgeon U. S. A., and proved himself an efficient medical officer. Later he was attached to the staff of the Lying-in Hospital and became an active general practitioner.

JAMES WARD SCOTT, M.D., died at Belair, Md., June 15, of blood-poisoning contracted in an operation, aged 54. He was born in St. Louis, of Virginia parentage, was educated at Dickinson College and took the degree of M. D. at the University of Maryland in 1866. He practiced in Council Bluffs, Iowa, and in Baltimore.

JAMES HENRY CANTRELL, M.D., Philadelphia, Pa., a graduate of Jefferson, 1856, and professor of dermatology in the Policlinic Hospital in that city, died June 3, at the age of 66 years.

FRANCIS A. SIMMONS, M.D., St. Joseph, Mo., died at his home in that city, June 5. He was 70 years of age. From 1880 to 1894 he was president of the Northwestern Medical College, holding the chair of practice of medicine during that time.

B. A. BARRETT, M.D., Springfield, Mo., died June 1, aged 73 years. . . B. H. Bean, M.D., Cherry Valley, Ill., June 18. . . Caleb Brown, M.D., Sac City, Ia., June 5, aged 50 years. . . Geo. W. Burrier, M.D., Clare, Mich., June 8. . . A. H. Carroll, M.D., Hennessey, Okla., June 3. . . N. R. Casey, M. D., Mound City, Ill., June 6, aged 73 years. . . Abraham A. Conrow, M.D., Moorestown, N. J., June 5, aged 42 years. . . L. H. Crossfield, M.D., Lawrenceburg, Ky., June 4. . . B. F. Fowler, M.D., Galena, Ill., June 16, aged 74 years. . . M. W. Hobbs, M.D., Richmond, Ind., June 16, aged 65 years. . . J. B. McCloskey, M.D., Mill-Hall, Pa., June 13, aged 54 years. . . O. B. Ormsby, Sr., M.D., Murphysboro, June 13, aged 63 years. . . John S. Pearson, M.D., Louisiana, Mo., June 2, aged 67 years. . . S. J. Perkins, M.D., Norwood, La., June 11, aged

39 years. . . Geo. N. Ranson, M.D., St. Peters, Minn., aged 28 years.

DEATHS ABROAD.

LAWSON TAIT, F. R. C. S., Birmingham, England, as announced in the JOURNAL, June 17, died June 13, at Llandudno, a fashionable watering-place in Wales. Endowed with a physique that was remarkable, it seems impossible to believe that he has died at the early age of 54. No cause of death has been given in the cable reports. Mr. Tait was born in 1845 in Edinburgh, and obtained his education in that city. There also he commenced his life work, and there, probably, from his friend and teacher, Thomas Keith, he obtained the views which developed into such bitter opposition to Lister, Listerism, and the antiseptic theory. An ardent believer in extreme cleanliness, long before Lister had promulgated his theory, Keith held views more or less antagonistic to that theory, and Tait, his personal friend and teacher, took up these views and fought for them till his death. In this fight he was vigorous, uncompromising, and made many enemies. Cleanliness was his hobby, and in this from the beginning he was an extremist. His success in abdominal surgery was remarkable, for while his statistics have been challenged, those who knew the man and his work knew of his success and believed his statements. This success no doubt depended as much on his recognition of the value of extreme cleanliness—asepticism—as on his ability, although as an operator he had few, if any, superiors. In 1871 he was elected one of the surgeons of the Birmingham and Midland Hospital for Women, an institution situated in one of the suburbs of Birmingham. Here he did much of his work, although his private hospital soon assumed no mean proportions. Considering the fact that Birmingham is a provincial town, it is remarkable, yet true, that he attracted a larger number of admirers and followers than any man in the great metropolis of London; and this in spite of the fact that he opposed accepted theories and, for some reason known only to himself, took up and advocated the fanatic cause of the anti-vivisectionists. It is generous to do so, yet it is hard to believe that he accepted as true that which he championed in this matter. He did this, however, to the extent that he antagonized to a great degree the whole medical profession, and at the same time did more harm than all the fanatics whose cause he advocated. He seemed to love controversy for controversy's sake, and appeared to be in his element when he was wielding his pen, always caustic, in behalf of some theory or notion not accepted by the majority. That this element in his nature was a part of the man up to the time of his death is proven by a controversial letter in the *British Medical Journal* of June 10, —three days before his death. It was, however, not alone in medicine that Mr. Tait was known, for in religion, society and politics he had distinct views and was never afraid to express them. For ten years he was a member of the Birmingham town council, during which time that body was setting an example in municipal government which has been followed for good by many like bodies since. He has been a voluminous writer and a great student in other ways than medicine. As a friend he was kind, true as steel, and generous to a fault; as an enemy he was vindictive, illiberal, unforgiving and never forgetting. And now he is dead, these latter qualities will be forgotten; his virtues, his good qualities, and the great work he has accomplished will be remembered. 'Twas ever thus and so it ought to be.

A. CHARPENTIER, professor agrégé at Paris, author of numerous works on obstetrics and gynecology, and translations of similar works from the German and Japanese, died recently. He was for some years editor of the *Nouvelles Annales d' Obstétrique et de Gynécologie* and was author of *Traité Pratique des Accouchements*, which has been considered a classic.

Book Notices.

Materia Medica and Therapeutics. An introduction to the Rational Treatment of Disease. By J. MITCHELL BRUCE, M.A. Aberd., M.D., London. Philadelphia: Lea Bros. & Co.

This is an American reprint of an English work, without revision. It, therefore, has the disadvantage of not corresponding entirely to the American pharmacopeia, and, also, of lacking some things that might be looked for by the American practitioner. On the other hand, it has the advantage of being thoroughly modern and scientific, and of possessing several valuable features peculiar to itself. One of these is the elaborately classified therapeutics in the third section of the work. The index is fairly full, which is well, since it will have to be used extensively by the average American reader in looking up the different drugs with the classification here adopted. As a handy work of reference supplementary to native treatises the book can be most warmly recommended to American physicians.

Manual of Organic Materia Medica.—Being a Guide to Materia Medica of the Animal and Vegetable Kingdoms, for the Use of Students, Druggists, Pharmacists and Physicians. By JOHN M. MAISCH, PH.M., PHAR.D., etc. Seventh Edition. Revised by Henry C. C. Maisch, Ph.G., Ph.D. 285 illustrations. Philadelphia: Lea Brothers & Co. 1899.

A seventh edition of this well known work hardly needs an introduction to the medical profession. While it is especially adapted for the use of pharmacists, it will be found a useful work of reference by any medical practitioner. The very numerous illustrations add materially to the value of the work. The reviser evidently did not consider some of the newer preparations for organotherapy as having yet earned a recognized place in our therapeutic armamentarium. Thyroid alone is included. It certainly has its acknowledged value.

Lecons sur les maladies nerveuses—Lectures on Nervous Diseases (second series). Par E. BRISSAUD, professeur agrégé à la Faculté de Médecine de Paris, médecin de l'hôpital Saint-Antoine, recueillies et publiées par HENRY MEIGE. 1 volume gr. in 8° avec 165 figures dans le texte (Masson et Cie. editeurs), 15 fr.

This volume contains a series of clinic lectures on a number of neurologic subjects, not all specially or systematically associated, but all of interest and value. The opening lecture is on the influence of the anatomic theory of the neuron on neuropathology, a subject that is not yet hackneyed or overdone, and this is followed by one on the primary and secondary lesions of the neuron cell body. Then follow a series on zona and its association and a chapter on the metamerism of the spinal segments and nerve roots, which introduces a relatively new conception into the explanation of many important conditions, the trophoneuroses for example, which are treated of in a following section. Among the other subjects of interest here discussed are the flaccid paraplegia from compression, syringomyelia, pseudobulbar cerebral paralysis, infantilism, neurotic polyuria, etc. These are only a portion of the morbid conditions discussed; there are others of not less importance, all based on actual cases described.

The illustrations are numerous and useful in elucidating the text. The work is in the usual clear and lively style of the French writer, and will form a valuable addition to the neurologist's library.

An Experimental Research into Surgical Shock. An Essay awarded the Cartwright Prize for 1897. By GEORGE W. CRILE, A.M., M.D., PH.D., professor of the principles and practice of surgery and applied anatomy in the Cleveland College of Physicians and Surgeons, etc. Philadelphia: J. B. Lippincott & Co. 1899.

This volume gives the details and results of an experimental study of surgical shock, begun at University College, London, and completed in the Cleveland College of Physicians and Surgeons. After a brief historic review and a description of appa-

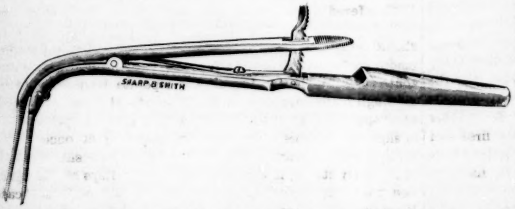
ratus, the details of 138 experiments on dogs are given, the respiration and circulation being registered on self-recording instruments. Each region and tissue of the body was studied as regards its relation to shock, and the results are discussed at length. The general conclusion from all the data is that surgical shock is mainly due to impairment or breakdown of the vasomotor mechanism, and that all the factors causing collapse may add to shock. The cardiac and respiratory factors may have a certain importance, but the main action is on the vasomotor system. The author makes a distinction between collapse and shock, understanding by the former term the immediate depression or death from injuries or operations, and by the latter the later depression or death due to the vasomotor impairment as the essential factor. This distinction should be borne in mind in referring to the work. The volume is in every way a creditable contribution to scientific medicine.

New Instrument.

A New Intubation Instrument.

BY CHARLES J. WHALEN, M.D.
CHICAGO.

After a great deal of experimenting on the cadaver, I have found that it is possible to combine both the introducer and the extractor in the same instrument. The only advantage this combination has over the O'Dwyer instruments is in cheapness; the doing away with the obturators and combining the introducer and extractor in the same instrument makes considerable difference in the purchase price of the two sets. After about 1000 intubations on the cadaver, by myself and 200 senior students at Rush Medical College, I am convinced that the French intubation instruments now on the market are



practically useless, especially for extracting purposes. My students would invariably have to resort to the O'Dwyer, or one patterned after the O'Dwyer style of extractor; the short curve and the shortness of the portion of the instrument at a right angle to the handle compels the operator to elevate the handle of the instrument tightly against the incisor teeth, and consequently the operator would be unable to insert the instrument properly into the opening in the tube, and nearly always fail to reach the tube at all, excepting in very small children. In the instrument represented by this cut all this difficulty has been overcome; the extracting, which is the most difficult part we are called on to do in a case of intubation, is done with the instrument and hand of the operator in the easiest position possible for them to assume.

Miscellany.

"Journal" Index.—The complete index for the volume ending with this, the June 24, issue of the JOURNAL, will be mailed with the JOURNAL for July 1.

Hyperthermia in Typhoid Fever.—The *Revista Medica de Chile* for May reports a case of typhoid fever in a girl with hysteric antecedents, the temperature rising to 49 C., verified by fourteen thermometers and in the presence of five physicians. Cold baths reduced it temporarily. The child recovered.

Sarcoma One-Third Total Weight of Child.—A sarcoma of the kidney weighing 3971 grams, was successfully removed from a child of 21 months. Death occurred a few months later, from metastasis.—*Presse Méd.*, May 6.

Cardiac Asthenia of Pneumonia.—In an item on this subject (JOURNAL, June 17, p. 1400) our correspondent incorrectly reported Dr. Elsner's recent paper in stating that the ethereal mixture is recommended at intervals of an hour or two. The intervals should be but fifteen minutes.

Some Truths Vaguely Told.—Dr. Alonzo Clark of New York, who died in 1887, in repute as one of the expert microscopists of his day, frequently iterated to his classes that pneumonic globules, as he styled them, existed, and that pus as such could not be absorbed. The microscope during his life was far from perfection, and staining was not in vogue.

Urosin.—Urosin is the name given by Weiss (*Berliner Klin. Woch.*, April 3, p. 297) to a combination in tablet form of kinic acid (7.5 grs.), lithium carbonate (2½ grs.), and sugar (4.5 grs.), for the treatment of the uric acid diathesis, from 6 to 10 tablets being administered daily. It has been shown that the formation of hippuric acid in the body prevents that of uric acid, the former being much the more soluble of the two. Among the substances that are transformed in the body into benzoic acid, and excreted as hippuric acid, is kinic acid, and it has been found experimentally that the ingestion of kinic is followed by diminished elimination of uric acid and increased elimination of hippuric acid. The lithium salt acts as a diuretic.

Baltimore Eye, Ear and Throat Charity Hospital.—According to the seventeenth annual report, just issued, this institution is in a very flourishing condition. The hospital was opened in September, 1882, following by some years the Presbyterian hospital working in the same field. A handsome new building was occupied in April, 1898. The total number of patients treated during the year was 3702. Of these, 2124 were white and 1578 colored; 2581 were affected with disease of the eyes, 714 with disease of the throat and 407 with affections of the ears. The attendance at the dispensary reached a total of 11,219, viz: 9157 in the eye and ear, and 2062 in the throat department. The 467 surgical operations included 329 on the eyes, 92 on the ear and 46 on the throat and nose. The total number of days' board furnished patients was 1649—546 of those being paid for in part or full and 1103 furnished free. Since the opening of the hospital in 1882, 39,992 patients have been treated and 4483 surgical operations performed, and the aggregate attendance in the dispensary has reached a total of 133,970.

Idiotia Amaurotica Familiaris (Sachs).—At a meeting of the Royal Society of Physicians, Budapesth, Jan. 7, 1899, M. Mohr (*Centralbl. f. die Grenzgebiete der Med. u Chir.* ii, p. 395) presented the results of the post-mortem examination of a case of amaurotic idiocy of Sachs. The condition is an independent, well-defined disease with the following course: The child is born normal and remains so for a few months to one year, during which time bodily and mental development progresses nicely; then there appears a condition of idiocy; the extremities and trunk become weak, spastic or flaccid; paralysis develops; the power of vision diminishes, and in the region of the macula lutea of each retina there appears a typic white spot, with a cherry-red point in the center. Optic nerve atrophy follows and death comes before the end of the second year, from progressive asthenia. The disease develops regularly in several children of the same family. Anatomically, Mohr reports a great atrophy of nerve-tracts in the brain, medulla and

cord, especially involving the pyramidal tracts, the cortical pyramidal cells being atrophic. There was edema about the macula lutea, and optic atrophy. Microscopically, the brain was normal as to lobes, fissures and convolutions. It will be observed that it is hardly correct to regard this process as a congenital arrest of development; the condition should hence be referred to rather as dementia than as idiocy.

Dangers of Caffein.—Zenetz reports three cases of sudden death from the ingestion of caffein, with the heart found so contracted at the autopsy that it almost repelled the scalpel. In one case 18 grains of the citrate had been taken in two days, and in another 45 grains in the course of a few days. The slow elimination explains its accumulation and dangers. It is found in the urine ten to fifteen days after it has been discontinued.—*Semaine Méd.*, No. 15.

Steam Treatment of Soft Chancres.—Eighty-nine cases of soft chancre, treated by first rinsing with a solution of boric acid, drying, and protecting the sound tissue, and then applying steam at a temperature of 50 to 60 degrees C., at a distance of 4 to 8 cm., healed with nine to sixteen applications in half the time required for a parallel series treated with the usual dry antiseptic methods. The chancre is soon transformed into a simple non-infected wound with the steam treatment three to ten minutes once a day.—*Semaine Méd.*, No. 18.

Rape of Husband on Wife.—Can a husband commit rape on a woman who is his wife? This unique and novel question, as he calls it, was recently considered by the supreme court of Louisiana, in the case of State vs. Haines. That he can procure the commission of the crime on her, or aid and abet its being done, and thus make himself liable as principal along with the actual perpetrator, the court thinks, is clear. But it holds that the husband of a woman can not be guilty of an actual rape on his wife, on account of the matrimonial consent which she has given, and which she can not retract. To hold a husband charged with rape on a woman who is his wife, or to convict him, the court states, it must appear that the carnal knowledge of the woman constituting the rape was accomplished through a man other than the husband, and that the husband procured it to be done, or assisted the other in the execution of their common purpose. But where the "other man" in the case, demanding a severance, is tried first and acquitted, the court holds that the prosecution against the husband fails, since he can not be guilty of raping his own wife.

Syphilis Reappearing a Defense for Not Marrying.—To a recent action for breach of promise the defendant's defense was that he had, at a considerable time before the engagement was made, contracted syphilis; that, from the opinion of his physicians, he supposed that the disease had been cured, and was under that impression when he entered into the engagement contract for the breach of which he was sued; that between the date of the contract and the day fixed for its consummation the disease reappeared; and that he was in no condition to marry the plaintiff, in consequence thereof. The plaintiff had judgment. But this the court of appeals of Kentucky reverses, April 26, 1899; case of Gardner vs. Arnett. It says that if the syphilis developed after the defendant made the contract of marriage, his right to refuse to carry it out existed. He owed it to the plaintiff and society to refuse to enter into marriage relations with her, and he had the right to abandon the contract and refuse to marry her at any time before their marriage was solemnized.

Oxycamphor and Oxaphor.—Oxycamphor is a substance that has been recommended for the relief of dyspnea. Chemically it is camphor in which an atom of hydrogen has been replaced by HO. It is free from the action of camphor on the heart, but especially possesses the property of reducing the irritability of the respiratory center. The drug has been employed in powder form in doses of 7.5 grains, but on account of its liability to change it is better dispensed in 50 per cent. alcoholic solution, to which the name oxaphor has been given. Jacobsohn (*Berliner Klin. Woch.*, April 17, 1899, p. 339) reports the employment of the remedy in eighteen cases of dyspnea, in the following combination:

Solution of oxycamphor (50 per cent.) . .	10 parts.
Alcohol	20 "
Fluid extract of licorice	10 "
Distilled water	150 "

Of this mixture a tablespoonful was administered thrice daily. Among nine cases of pulmonary disease relief from the respiratory difficulty was afforded in all but one; among five cases of cardiac disease, the results were satisfactory in four; and of four cases of renal disease the breathing was rendered more comfortable in all.

Property in Prescriptions.—A druggist, the court of civil appeals of Texas holds, in the case of Stuart vs. Hirsch, has a right of property in the prescriptions filed with him. Upon a conversion of such property, it suggests, he would not be restricted to an action for the specific property, but could recover the value thereof, the prescriptions having a value to him. And any such rights, it holds, are transferable in that State. But the rights here spoken of are considered particularly as existing between the druggist and third persons, the rights of the persons depositing the prescriptions being only incidentally referred to as a qualified right to the use of the prescriptions, if asserted. Prescriptions, the court does not consider are "merchandise," in the usual and understood sense of that term, so as to be covered by a mortgage of a stock of drugs, merchandise, and fixtures.

Treatment of Appendicitis.—In a communication presented to the Paris Society of Surgery, Poirier (*Lancet*, May 13, 1899, p. 1332), offered the following propositions: 1, there is no medical treatment for appendicitis; 2, in acute cases operation should be performed as soon as possible after the diagnosis is made; 3, in doubtful cases it is better to operate; 4, in subacute cases it is better to wait and operate between attacks, although many surgeons prefer to operate at once; 5, suppurative appendicular peritonitis demands instant operation; 6, in slight cases there is less risk in operating at once than in waiting and operating in the interval, and diagnosis, especially in the early stages, is far from easy; 7, the steps of the operation must vary according to the needs of each particular case. Resection of the appendix should be practiced whenever the search for the organ does not involve much injury to the tissues. The possibility of a ventral hernia after operation in the acute stage is not a contraindication against operation, for the risks from this source are less than those of waiting.

The Practical Importance of Pure Liquid Thiol.—Dr. Niculin (*Deutsche Med. Zeit.*) has employed pure liquid thiol during the past four years beneficially. The application is made as follows: The thiol was penciled over the diseased part with a soft point and dried, and then covered with any kind of material that would protect it from contamination. The application was done twice daily—morning and evening. At the conclusion of the treatment the dried thiol was penciled over with warm water or alcohol. In acute articular rheumatism the thiol was warmed a little before the application and the affected limb carefully covered after the application. He says he has employed thiol in this way in the following cases: one of contusion, two of abscess, three of acute articular rheumatism, four of gout, five of chronic articular rheumatism and seven each of neuritis and toxic neuritis, and eight cases of myositis. The properties attributed to thiol are its anesthetic and resorptive, and the author comes to a general conclusion that the practicing physician has a very valuable aid in thiol. In acute cases

like contusion, abscess, acute articular rheumatism, neuritis, myositis, its action is more energetic than in chronic affections, but the pure liquid thiol is alone to be used, and no derivative of the same, and it must be used undiluted. In none of his cases has he observed any unpleasant side effects, although he has sometimes applied it over a considerable portion of the body. In one case of toxic neuritis both legs were daily penciled with thiol for more than a month, their whole extent, without the slightest local or general disturbance.

The Treatment of Chlorosis.—Dunin (*Berliner Klin. Woch.* April 3, p. 299) protests against the indiscriminate administration of iron in cases of anemia and of impaired nutrition. He considers the drug of greatest value in the treatment of chlorosis and of anemia from hemorrhage. Although dependent, like chlorosis, on deficiency on the part of the blood in albumin, and particularly hemoglobin, the condition that has been described as pseudochlorosis presents somewhat different clinic manifestations and is not amenable to treatment with iron. In contrast with chlorosis, this condition is characterized by pallor, almost whiteness, of the skin, bluish conjunctiva, reddish mucous membrane, and absence of subcutaneous fat; the pulse may be accelerated, but it is not quick and soft; cardiac and venous murmurs are wanting, and insomnia is often present. Hygienic, nutritive and dietetic measures are here of greatest importance, while they are of subordinate value in the treatment of chlorosis. The form of iron employed in cases of chlorosis is not material; the essential point is that it shall be given in large doses for a long time. Dunin prefers the pill of iron carbonate, made according to the formula of Blaud, in doses of 12 grains a day in two portions. Often $\frac{1}{20}$ grain of arsenious acid is added to each dose; if diarrhea be present, opium is incorporated into the pill. The treatment should be persisted in, even though intermittently, for a long time after the symptoms have disappeared. Rest is considered an important factor in the treatment, and muscular activity is therefore interdicted, on account of the quantitative deficiency and the functional inadequacy of the hemoglobin. Residence at a mountainous elevation is to be avoided for similar reasons, as is also cold-water bathing. Milk, if well borne, should be used freely; alcoholic drinks should be strictly interdicted, and the use of tea and coffee should be restricted.

Liability for Not Furnishing Trained Nurse.—In the case of Ward vs. St. Vincent's Hospital, the first appellate division of the supreme court of New York reversed, April 21, 1899, a judgment that had been rendered in the defendant's favor. This was an action brought to recover damages because of an alleged breach of contract on the defendant's part to furnish the plaintiff a skilled, competent, and trained nurse. The contract, the court says, was express. It settled all questions of general duty attached by law, and became the criterion of the defendant's specific duty in the case. And it was a contract, the court holds, which the defendant certainly had power to make. Though the defendant was what is termed a "charity hospital," it had its "pay" side. Upon the latter side, it was in the habit of furnishing private rooms and nurses to well-to-do people for a full price. For the breach, then, of that express, specific, and valid contract, the court holds that the plaintiff was entitled to the same damages as though the action had been for negligence, pure and simple. In either case she was entitled to compensation; that is, to an adequate indemnity for her injuries,—no more, and no less. Ample evidence of the express contract the court considers was adduced in the explicit testimony furnished to the effect that the defendant, through its undoubtedly authorized agent, agreed, for the consideration of $21 per week, to provide her with a skillful, trained, and competent nurse. Moreover, this contract the court pronounces entirely reasonable, and clearly within the scope of the authority of the sister who made it. On the question of the alleged breach of the contract, the court says that evidence that the person furnished was not a trained nurse, in the sense of being a graduate, and had studied in the school for but nine months, whereas the course there was two years, was clearly sufficient to carry the case to the jury. In other words, the court holds that it was for the jury to say whether, in furnishing a careless pupil, of limited experience, the defendant fulfilled its contract obligation to the plaintiff, and if it did not, and injury resulted from the breach of that obligation, to award her adequate compensation for such injury.

Typhoid Infection without Intestinal Lesion.—The number of these cases is steadily growing and it is most curious the localities this bacillus selects in the economy for its growth. The bones, uterus, kidneys, to say nothing of the mesenteric glands, spleen and liver, have all furnished this germ in pure culture without any anatomic involvement of the intestines. The latest case to be reported fully is that of Lartigau (*Johns Hopkins Hosp. Bul.*, April; JOURNAL, May 6, p. 989). The patient, a man of 36, had died of septicemia after an illness of but twenty-one days. Without going deeply into the post-mortem history, suffice it to say that the intestines presented no marks of typhoid, neither injection of the mucous membrane nor swelling of the solitary follicles; the patches of Peyer were not involved in any way; there were no evidences of cicatrization. The spleen was very much enlarged; the mesenteric glands not at all. There was cloudy swelling in the various glandular organs. Microscopic examination, however, showed necrotic areas in the liver, spleen and mesenteric glands, while sections of these organs stained by special methods, showed masses of bacilli, closely resembling the typhoid bacillus. From cultures from the liver, heart, spleen, lung and gall-bladder, one single germ, a short thick bacillus, decolorized by Gram's method, was isolated. Growing this on the various test culture-media isolated it absolutely as the typhoid bacillus. The Widal reaction, using this bacillus with the serum of a known case of typhoid, was positive in twelve minutes, dilution 1:10. All in all this case has been entered into so fully that there is no room for doubt. In this connection it would perhaps be of interest to state the anatomic divisions into which typhoid fever has been divided by no less authority than Chiari and Kraus. These cases showing characteristic typhoid lesions; these atypic cases, still capable of being recognized post-mortem; those with no macroscopic anatomic lesions, but in which the typhoid bacillus can be cultivated from the organs; lastly, those incapable of anatomic or bacteriologic distinction, but responding positively to the Widal reaction.

Brain Weights and Intellectual Capacity.—In recent years the study of brain weights in relation to intellectual development has become of renewed interest, due in part to the investigations made by neurologists, psychologists, alienists and criminologists. The weight of the brain is not an index of intelligence; neither does it depend on the depth of the gray matter. Gray matter per se could not be the index since it is also found in the spinal cord, as well as in various ganglia throughout the body, and in this connection a recent contribution to *Appleton's Popular Science Monthly*, by Dr. Joseph Simms, will be found of special value. The data it contains are based on facts derived from a study of the subject in Europe, Great Britain, Asia, Africa and Australia. The two heaviest brains there recorded are those of Dr. Carl A. Rudolph, a Swedish naturalist and physiologist of Stockholm; and that of Rustan, an ignorant workman, each of which weighed 78.3 ounces. The brain of the mechanician and author, Knight, weighed only 64 ounces, the brain of General B. F. Butler, 62 ounces, while those of the philosopher Huber, of Babbage, Grote, Bertillon, Liebig, Whewell, Gall, Gambetta, and Bishop, the mind

reader (?) are put in the group weighing from 49.9 ounces to 40 ounces each. Another group weighing from 58.6 to 54 ounces includes those of Thackeray, George Combs, U. S. Senator Atherton, Spurzheim and Sir James Y. Simpson. A group of those weighing from 53.6 to 50 ounces each includes those of Daniel Webster, Agassiz, Napoleon, the mathematicians De-Morgan and Gauss, the anthropologist Broca, the Scottish divine Chalmers, and generals Skoboleff and Lamarque.

Among the notoriously large brains occurring in idiots and imbeciles may be mentioned those of a dwarfed Indian squaw which weighed 73.5 ounces; an illiterate and ignorant man, 71.3 ounces; a congenitally imbecile person, 70.5 ounces; two other imbeciles cited by Ireland, one of which weighed 63.2, the other 62.8 ounces; while that of an ignorant boy 14 years of age weighed 57.5 ounces. The average weight of the human brain, according to Austin Flint, is 50.2 ounces, and according to Peacock, between the ages of 25 and 50, 50 ounces and 3 drams in England: in Germany Tiedemann reckons it at 53.2 ounces. George Combe estimates the normal brain at 53.5 ounces. Simms makes the following comparison. Taking the sixty heaviest brains of persons not noted for their intellectual greatness it is found that the average is 63.2 ounces. Comparing this with the average of sixty famous men, 51.3 ounces, the difference in favor of the imbeciles, idiots, criminals and men of ordinary mind is 11.9 ounces. The ten heaviest brains of persons noted for intellectual development give an average of 61.1 ounces, while the average given by the ten heaviest of the opposite class is 70.4 ounces or 9.3 ounces greater. Boyd, as the result of study based on post-mortem examination in two thousand instances, gives 45.9 ounces as the average weight of boys from 7 to 14 years of age, and for girls of the same age it was 42.2 ounces. Whether climate has any relation to the growth of the brain as claimed by Simms is doubtful. Simms, however, cites the average size of the brain in cubic inches as published by the Philadelphia Academy of Sciences, which are as follows: Lapps, 102; Swedes, 100; Anglo-Saxons, 96; Finns, 95; Anglo-Americans, 94; Germans, 92; Celts, 88; Malays, 86; Chinese, 85; Tombs of Gizeh, 84; embalmed Semitic, 82; Egyptians, 80; Fellah, 79; Bengalese, 78.

As regards the theory that complicated convolutions and deep sulci are the index to intellectual development, Simms considers such a claim groundless; because such rodents as the beaver, squirrel, rats and mice have but few or no convolutions, yet they show foresight in storing up food for the winter months. Moreover, Simms remarks that these animals labor in unison, live in societies and work for a common purpose. Whales, for instance, have larger brains, with more numerous and complex convolutions and deeper sulci than exist in man. Idiots possess as large brains, as deep sulci, and convolutions as fine, as large and as complex as men of the highest intellectual development. As to the depth of the gray matter as being an index to mental capacity, Webster's brain had gray matter to the depth of one-sixteenth of an inch, while Simms states that after an examination of the brains of murderers, negroes and others sunk in ignorance, he has invariably found the gray matter thicker than in the case of Webster. Simms also speaks of the movement of the brain in the skull, which he claims changes its position according to the laws of gravitation as in the case of the lungs, heart and liver, and is dependent on the position of the body. From these, M. Luys concludes that vertigo is produced in feeble persons in suddenly arising from a horizontal to an erect posture.

Philadelphia.

DR. P. S. DONNELLAN.—Dr. Donnellan has returned to the city after an extended trip to Europe.

APPOINTMENT.—Dr. L. Napoleon Boston has been appointed to the position of out-door physician for the Twenty sixth Ward, to succeed Dr. Montgomery, resigned.

RESIGNATION.—The board of charities and corrections has accepted the resignation of Dr. John Guitéras as pathologist of the Philadelphia Hospital, but his successor has not yet been appointed.

MORTALITY STATISTICS.—The number of deaths occurring in this city for the week just closed was 423, a decrease of 55 over last week and a decrease of 76 over the corresponding period of last year. Of the total number of deaths, 124 occurred in the case of children under the age of 5 years. The principal causes of deaths were: apoplexy 15, nephritis 24, cancer 12, cholera infantum 11, tuberculosis 51, diabetes 3, heart disease 37, marasmus 16, suicide 3, sunstroke 12.

NEW LABORATORIES.—Work has begun on the new laboratories and out-patient department of the Medico-Chirurgical College.

Questions, Answers, Etc.

PRACTICE IN VIRGINIA AND WEST VIRGINIA.

MT. CARMEL, KY., June 14, 1899.

To the Editor:—I will deem it a favor if you will inform me what the requirements are for registration in both Virginia and West Virginia.

Respectfully, ALEX M. COOK, M.D.

Answer:—In Virginia it is necessary, before being allowed to practice medicine, to have passed a satisfactory examination before the State board of examiners. The law does not specify the character of the examination, but it is supposed to be reasonably strict. Failure to pass disqualifies one from being re-examined within the succeeding six months, or until the next meeting of the board.

In West Virginia a like examination must be passed before the State board of health.

Letters addressed to the secretaries of the boards in either State, at the State capital would probably reach them and procure the needed information as to the times of meeting, etc.

PRACTICE IN ILLINOIS.

GENTRYVILLE, MO., June 17, 1899.

To the Editor:—Will you please inform me what the State requires before a physician can practice in Illinois, and what is the cost?

Respectfully, W. H. HILL, M.D.

Answer:—See JOURNAL, April 22, p. 824.

ST. LUKE'S HOSPITAL.

ST. PAUL, MINN., May 30, 1899.

To the Editor:—I hand you herewith a letter received from A. C. Probert, secretary and treasurer St. Luke's Hospital, Niles, Mich., also a copy of my letter sent him on this date.

I trust that at the next meeting of the ASSOCIATION some definite action will be taken that will either put an end to this disgraceful commercialism or place the ASSOCIATION on record for all time in a manner which can not be misunderstood. Yours very truly,

CHAS. LYMAN GREENE, M.D.

NILES, MICH., May 25, 1899.

DR. C. L. GREENE, ST. PAUL, MINN.

Dear Doctor:—We have held our monthly meeting of the board of directors for the purpose of appointing more physicians to represent and take an interest in making the advantages of St. Luke's Hospital, of Niles, Mich., more widely known to the medical profession. We are very anxious to secure all the operations we possibly can this year.

In considering the appointment of a physician to look after our interests at your place, your name was selected by our secretary, as being a good physicaan to represent us within your community. We have the honor to inform you that you have been duly elected a member (subject to your confirmation) of our visiting and consulting physicians and surgeons. The many advantages, privileges and financial benefits to be gained by your becoming a member in good standing upon our medical staff are briefly told as follows, viz.:

1. We will pay you a commission of 50 per cent. in cash for all surgical operations and medical cases that you may send to our hospital for proper treatment.

2. We charge nothing for nursing patients day or night, as that part of the expense is taken from our endowment fund. We do charge, however, for our board and room, ranging from $1.50 to $2 per day, according to the location selected by the patient.

3. When you have ordered and paid for your certificate of membership, if you will send us a list of names, not exceeding twelve, including among them your local newspaper, we will write each one an individual letter recommending and endorsing you to them, a copy of which we enclose herewith for perusal. We also enclose you a copy of a letter taken from the original one received a short time ago from one of our new members in good standing, Dr. J. B. Gordon of Gila, Mo., which will speak for itself, without any further comment from us.

4. We have at the present time in the hands of our lithographers a neat pocket hospital ticket, which we intend to issue to all our members in good standing, and which we believe, if displayed judiciously, will pay for your certificate of membership many times over during the course of a year.

Now, Doctor, after carefully considering all these four strong features, we would ask with all fairness, if you do not consider it to your financial interest to have your appointment confirmed for your place before any other physician should receive it?

Trusting we shall have the pleasure of hearing from you soon and favorably, believe us to remain with kindliest regards and best wishes for your future success and prosperity in your profession.

Fraternally yours. A. C. PROBERT, secretary.

ST. PAUL, MINN., May 30, 1899.

DR. ARTHUR C. PROBERT, Sec. St. Luke's Hospital, NILES, MICH.

Sir:—I beg to acknowledge your letter of the 25th instant, and to state in reply that I consider it an insult, and that I fail to understand what I have done to lead you to believe that I would enter into any such advertising and commission business as is evidently being carried on by your hospital. There is hardly one thing in your arrangement and plans that I can regard as legitimate or honorable. I have the heartiest contempt for any man either paying or demanding commissions for cases referred, and I cherish the same feeling toward those who seek to advertise by such underground methods as are outlined in your letter and its accompanying literature. I can assure you that I shall do everything in my power to guard my patients and keep them away from your institution, and unless I am greatly mistaken you will find it extremely difficult to secure the

names of any reputable members of the profession in St. Paul to be added to your paper staff. Yours truly,

(Signed) CHAS. LYMAN GREENE, M.D.

ANSWER:—Dr. Greene, evidently did not grasp the idea that he was only one out of thousands of physicians who have received nice, flattering typewritten letters, notifying them of their appointment as surgeons to St. Luke's Hospital. And sufficient numbers of physicians grab the bait, which is made so attractive by flattery, to make the enterprise a paying one to those running it. It is a great scheme, conceived in sin and born in iniquity, to be sure, but what of that! The idea that doctors are human and like to have their vanity touched up a little was a happy one, and the beautiful diploma of sheepskin—and a big one at that—certifying that the doctor was a member of the staff of this great hospital, was a thing not to be sneezed at, especially since it only cost $10, and as these St. Luke people have had some experience with diploma manufacturing here in Chicago, they knew how to get up a nice one. St. Luke's hospital has spread its net widely and has hauled in many a kettle of fish, and it is still fishing. That the head of the concern got his diploma from a diploma mill here in Chicago, and that other "professors" connected with the institution have no diploma at all, is of little note. Every week or two we get letters asking us to expose the concern, but as we believed the readers of the JOURNAL were not the kind to be duped by such a scheme, and as others would not be enlightened by what appears in its columns, we have thought it would be a useless waste of time.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., to and including June 15, 1899.

E. W. Ames, acting asst-surgeon, from the general hospital at Savannah, Ga., to San Francisco, Cal., for duty at the general hospital at that place.

William C. Berlin, acting as-t.-surgeon, from Washington, D. C., to Camp Meade, Middletown, Pa., to accompany the 19th Inf., to Manila, P. I.

Rufus D. Boss, acting asst.-surgeon, now sick at Hospital No. 2, El Vedado, Cuba, to proceed to New York City, for assignment in the Department of the East.

Arthur I. Boyer, acting asst.-surgeon, from Washington, D. C., to Governor's Island, N. Y., for duty in the Department of the East.

Calvin De Witt, lieut.-col., deputy surgeon-general, U. S. A., leave of absence granted.

Benjamin J. Edgar, Jr., acting asst.-surgeon, member of a board convened at Fortress Monroe, Va., to examine persons designated for appointment as 2nd lieutenants in the army.

John J. Gilhuley, acting asst.-surgeon, relieved from duty with the 19th U. S. Inf., at Camp Meade, Pa., to proceed to Bridgeport, Conn., for annulment of contract.

William W. Gray, major and surgeon U. S. A., from Fort Huachuca, Ariz., to Fort Logan, Colo., to accompany the 25th U. S. Inf., to Manila, P. I.

Harry S. Greenleaf, lieut. and asst.-surgeon U. S. A., member of a retiring board convened in Washington, D. C.

George L. Hicks, acting asst.-surgeon, from Washington, D. C., to Camp Meade, Pa., to accompany the 16th U. S. Inf., to Manila, P. I.

Paul C. Hutton, acting asst.-surgeon, now at Camp Meade, Pa., to report to the commanding officer of the 19th Inf., to accompany that regiment to Manila, P. I.

William F. Leppitt, Jr., capt. and asst.-surgeon, U. S. A., member of a retiring board convened at Washington, D. C.

Charles T. Mason, capt. and asst.-surgeon, U. S. A., sick leave extended.

William E. McPherson, acting asst. surgeon, from Washington, D. C., to Camp Meade, Pa., to accompany the 19th U. S. Inf., to Manila, P. I.

Frederick H. Mills, acting asst.-surgeon, from Pinar del Rio, Cuba, to Buffalo, N. Y., for annulment of contract.

Henry C. More, acting asst.-surgeon, from duty with the 19th Inf., to proceed to New York City for annulment of contract.

Frank J. O'Hare, acting asst.-surgeon from Camp Meade, Pa., to New York City, for annulment of contract.

John C. Orr, acting asst.-surgeon, from Chambersburg, Pa., to Governor's Island, N. Y., for duty in the Department of the East.

Adrian S. Polhemus, capt. and asst.-surgeon, U. S. A., sick leave granted.

Alexander S. Porter, lieut. and asst.-surgeon, U. S. A., retired June 8, 1899, for disability incident to service.

Willis J. Ramsay, acting asst.-surgeon from duty at Fort Logan, Colo., to accompany the 25th U. S. Inf. to Manila, P. I.

Charles Richard, major and surgeon, U. S. A., member of a board convened at Fort Monroe, Va., to examine persons designated for appointment as 2nd lieutenants in the army.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending June 17, 1899.

P. A. Surgeon M. S. Guest, detached from the "Detroit" June 20, and ordered home to wait orders.

P. A. Surgeon W. C. Braisted, ordered to the "Detroit" June 20.

Surgeon A. F. Magruder, granted leave for four months, with permission to leave the United States.

Surgeon J. D. Gatewood, detached from the bureau of medicine and surgery and ordered to the "Lancaster" June 22.

Surgeon P. A. Lovering, detached from the "Lancaster" June 22, and ordered home to wait orders.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended June 15, 1899.

Surgeon R. D. Murray, so much of bureau letter of May 15, 1899, directing him to transfer property in his charge to P. A. Surgeon W. J. S. Stewart, revoked, and directed to defer departure to Key West, Fla., until the arrival of Surgeon W. P. McIntosh.

Surgeon H. R. Carter, to report at Washington, D.C., for special temporary duty.

Surgeon C. E. Banks, to proceed to New York City for special temporary duty.

Surgeon C. T. Peckham, to proceed to Sabine Pass, Texas, for special temporary duty.

Surgeon S. D. Brooks, granted leave of absence for fourteen days. Upon expiration of the leave of absence granted by bureau telegram of June 12, 1899, to proceed to Portland, Maine, and assume command of the service.

Surgeon W. P. McIntosh, upon being relieved from duty at Louisville, Ky., to proceed to Mobile, Ala., and assume command of the service.

P. A. Surgeon C. P. Wertenbaker, granted leave of absence for six days.

P. A. Surgeon W. J. S. Stewart, bureau letter of May 15, 1899, directing him to assume command of the service at Mobile, Ala., revoked.

Asst.-Surgeon J. B. Greene, relieved from duty at San Francisco, Cal., and directed to proceed to Boston, Mass., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon John McMullen, upon being relieved of temporary command of the service at Portland, Maine, to proceed to Louisville, Ky., and assume command of the service.

Asst.-Surgeon D. E. Robinson, granted leave of absence for three days (par. 181, regulations M.-H.S.).

Acting Asst.-Surgeon C. E. Uhlrich, granted leave of absence for twenty-six days from June 5, 1899.

Hospital Steward F. H. Peck, bureau letter of March 15, 1899, directing him to proceed to the Tortugas quarantine station for duty, revoked.

Hospital Steward L. W. Ryder, granted leave of absence for fourteen days from June 16, 1899.

Hospital Steward C. G. Carlton, relieved from duty at Egmont Key, Fla., and directed to proceed to New Orleans, La., and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward J. E. Beck, relieved from duty at New Orleans, La., and directed to proceed to Mobile, Ala., and report to the medical officer in command at that port for duty and assignment to quarters.

APPOINTMENTS.

W. J. Linley of Georgia, appointed acting asst.-surgeon U.S. marine-hospital service, for duty at the Savannah, Ga., quarantine station.

W. H. Lippitt of North Carolina, appointed acting asst.-surgeon U.S. marine-hospital service, for duty at Wilmington, N. C.

BOARD CONVENED.

Board convened to meet at New York City, at 10 o'clock A.M., on Tuesday, June 27, 1899, for the purpose of examining candidates for appointment as asst.-surgeon in the service. Detail for the board: Surgeon G. W. Stoner, chairman; Surgeon C. E. Banks; Surgeon L. L. Williams, recorder.

CHANGE OF ADDRESS.

Abt, I. S., from 4006 Grand Boul. to 4326 Vincennes Av., Chicago.
Aronstand, N. E., from 46 Sherman to Cor. Napoleon and Hastings, Detroit, Mich.
Best, L. E., from 194 Barclay to 6 Canal St., Grand Rapids, Mich.
Baxter, G. E., from 1808 Indiana Av. to St. Luke's Hospital, Chicago.
Black, J. F., from New York City to 403 St. Clair St., Cleveland, Ohio.
Brown, H. C., from Chicago to 1142 Washington St., Denver, Colo.
Blount, R. T., from San Antonio to Fairfield, Texas.
Birkofer, W. J., from Bradgate to Kanawha, Iowa.
Cushman, H., from Stromberg to Weston, Neb.
Collins, K. R., from 63½ Whitehall St. to 308 Eng. Amer. Bldg., Atlanta.
Clark, J. W., from Chicago to Kenilworth, Ill.
Chase, C. L., from 2114 W. Broadway to 619 6th St., Louisville, Ky.
Cheadle, C. M., from Buda to Lee Center, Ill.
Davis, T. J., from 6030 Penn Av. to 204 Shady Av., Pittsburg, Pa.
Davis, G. W., from 683 Sutter to 1429 Van Ness Av., San Francisco, Cal.
Dittemore, J. H., from Chicago to Troy, Kans.
East, O. J., from Detroit to Edwardsburg, Mich.
Elliott, H. R., Detroit, Mich., to Denver, Colo.
Felt, R. A., from Anita, Iowa, to East Galesburg, Ill.
Fisk, F. F., from Cedar City to Helper, Utah.
Fridus, S. L., from Chicago to Maywood, Ill.
Goodwin, H. C., from Amesbury, Mass., to Hanover, N. H.
Gallen, G. E., from Chicago to Hancock, Mich.
Gass, W. S., from Detroit to Rochester, Minn.
Hayes, F. N., from Detroit, Mich., to Crowley, La.
Hall, L., from 1325 15th to 1344 25th St., Des Moines, Iowa.
Hershey, E. F., from 1311 Sherman Av., to 501 E. Colfax, Denver, Colo.
Holman, J. A., from Chicago to Granite Falls, Minn.
Harrelson, A. O., from 703 East 9th St. to 303 N. Y. Life Bldg., Kansas City, Mo.
Kelly, W., 33 Lindsley Ave. to City Hospital, Nashville, Tenn.
Kennedy, F. P., from Peters to Dubuc, Texas.
Koehler, G. F., from Boise City, Idaho, to Portland, Ore.
Lumley, R., from Chicago to Watseka, Ill.
Lenert, R. H., from Warrenton to Burnham, Texas.
Lamb, G. E., from Detroit to Clare, Mich.
Lichty, J. T., from Clifton Springs, N. Y., to Markelton, Pa.
Mitchner, G. W., from Newman, to Kansas, Ill.
Morse, A. W., from 2358 Indiana Av. to Silver Cross Hospital, Joliet, Ill.
McCaffrey, P. J., from Pittsburg to Ashland, Pa.
McMurry, O. M., from 125 Flourney to 322 S. Wood, Chicago.
Murray, R. O., from Mobile, Ala., to Key West, Fla.
Motter, M. G., from Washington, D. C., to Mountain Lake Park, Md.
McLaren, J. L., from Santa Barbara to Los Angeles, Cal.
Moorehouse, W. G., from Philadelphia to Tyrone, Pa.
Morrissey, J. J., from 2052 Madison Av. to 50 E. 129th St., New York City.
McDonnel, F. J. A., from 108 Elizabeth St., E., to St. Mary's Hospital, Detroit, Mich.
Pihlblad, A., from Chicago to Lindsborg, Kans.
Palmer, W. A., from Ada to Redwood Falls, Minn.
Peasley, A. J., from 81 Warren to 504 Park St., Columbus, Ohio.
Putnam, H. C., from Canton to Civer, Ill.
Rhymes, W. J., from Alto to St. Martinsville, La.
Ross, J. W., from Key West, Fla., to Peachers Mills, Tenn.
Schmauss, L. T., from Chicago to West Duluth, Minn.
Stevenson, H. E., from Chicago to El Paso, Texas.
Stephen, H. E., from Chicago to 511 Exchange St., Joliet, Ill.
Sloan, J. F., from Chicago to Brimfield, Mich.
Steen, E. R., from 601 Jackson Boul. to 298 W. Maxwell St., Chicago.
Small, J. M., from 26 W. 27th to 221 W. 21st St., New York City.
Sprague, W. B., 2148 Gladys Av. to 2116 Van Buren St., Chicago.
Vilas, W. H., from Chicago to El Paso, Texas.
Watson, C., from Lincoln to Nebraska City, Neb.
Walker, A. B., from Detroit, Mich., to Crowley, La.
Woods, J. G., from Louisville, Ky., to Burkeville, Texas.
Windler, W. G., from Andalusia to 1504 Spruce St., Philadelphia, Pa.

EXHIBITORS AT THE COLUMBUS MEETING.

Not the least among the interesting features of the annual sessions of the ASSOCIATION is the display made in the exhibit hall, by the leading pharmaceutic manufacturers throughout the country. The exhibit hall at Columbus might be said to have attracted this year even more attention on the part of the visiting physicians than in any previous year. At least the displays were up to the usual high standard and most of the leading pharmaceutic concerns in the country were represented. As is our custom following the annual meeting, we publish herewith a brief outline of the various exhibits of interest to those who were unable to attend the recent meeting.

ALLEN AND HANBURYS, LTD.

One of the busiest men in the exhibit hall was the representative of Messrs Allen and Hanburys, Ltd. (London, Eng.), who served No. 2 (the milk food) of their series of graded foods for infants in a most acceptable form. Served frozen, as the weather was extremely warm, the food was very highly appreciated. This house has laboratories, warehouses, instrument factories, offices, etc., in various parts of London, three cod-liver oil factories in Norway, and infants' food manufactories at Ware, Hertfordshire.

ARLINGTON CHEMICAL COMPANY.

The three Yonkers (N. Y.) firms, The Arlington Chemical Co., N. Y. Pharmacal Ass'n, and Palisade Mfg. Co., had one of the most artistic and attractive exhibits in the hall, in charge of Mr. Stephen Hexter, their Chicago representative. One of the features of this exhibit was the famous $1000 painting, "The Country Doctor," by W. Granville Smith, recently purchased by The Arlington Chemical Co. Continuous throngs crowded their exhibit and carried away over a ton of samples of Lactopeptine, Liquid Peptonoids, Borolyptol and Hemaboloids.

ABBEY EFFERVESCENT SALT CO.

An important display was that of this company. Abbey's effervescent salt is a standard preparation in England, and has the highest medical endorsements as possessing every requisite that such a salt should have. "The slight granulation enables the patient to obtain the fullest development of the carbonic acid gas. Its action on the bowels is gentle but positive, and its valuable antacid properties render its use particularly beneficial in many cases where a harsher aperient might prove deleterious."

THE AMMONOL CHEMICAL COMPANY.

The exhibit of this company was in charge of their genial Dr. J. C. Harrington, who, from the tastily arranged booth, distributed Ammonol literature and samples of the pharmaceutic preparations of this firm to the visiting physicians; in fact, so great a demand was there for samples of the several favorite products of this house that on the last day Dr. Harrington was unable to supply the visitors.

D. APPLETON & CO.

The exhibit of the Cincinnati department did credit to this firm, and their representatives were kept busy showing their excellent publications. Among these were "Johnson's Cyclopedia," which A. R. Spofford says "is found to answer more questions correctly than any other book in the Congressional Library"; "Kelly's Operative Gynecology," the "most elegant of medical books"; "Osler's Practice," the government standard; Wyeth's and Tillman's unequaled surgeries; "Skene's Electro-Hemostasis," and other world-famed volumes.

APOLLINARIS COMPANY.

An interesting exhibit was that of this company, consisting of Apollinaris, Johannis-lithia and Apenta natural mineral waters. Apollinaris is a household word, and here, as in England, at every social function "The Queen of Table Waters" is in evidence. Johannis-lithia is a lithium water for table uses, and Apenta a purgative water, but of a mild and non-irritating character, due to the presence of a large quantity of sulphate of magnesia, considerably exceeding the sulphate of soda.

ARMOUR & COMPANY.

The exhibit of this firm was arranged in pyramid form, displaying the preparations to most excellent advantage. In addition to their well-known line of digestive ferments, bone marrow, nutrient wine of beef peptone, thyroid and suprarenals were exhibited. The recent research in the last-named preparation, proving its wonderful hemostatic and astringent properties, has aroused much interest among the profession. Drs. J. M. Roberts and S. J. Wimmer, the medical representatives of the firm, were in charge.

BAUSCH & LOMB OPTICAL CO.

Every American and every user of laboratory apparatus should be proud of the achievements of this company, whose elegant recent productions place them among the foremost of the microscope makers of the world. An array of fine microscopes and other laboratory apparatus was presented, and manipulation of the modern American microscope and its advantages over foreign goods were explained. Great interest was continually manifested in the exhibit. We are informed that Rochester now produces three-fourths of the world's annual output of microscopes.

BERNSTEIN MFG. CO.

These Philadelphia makers of aseptic hospital furniture and sterilizing apparatus were represented by Mr. W. Acton Weaver. They manufacture a line of "positively aseptic steel and glass furniture, second to none in the market." Their "Par Excellence" surgical dressing sterilizer especially interested the visiting surgeons. "We know of no other sterilizer for sterilizing dressings under pressure that equals this apparatus." The exhibit certainly commanded marked attention.

BETHESDA MINERAL SPRINGS CO.

Messrs. Jones and Hedstrom represented this company, and Bethesda's growing popularity was demonstrated by the large number of the medical fraternity who renewed their acquaintance with this famous water. "Bethesda has been successfully used as a diuretic for more than thirty years, by the leading physicians of this and European countries." These goods are in sealed bottles only.

C. BISCHOFF & CO.

The exhibit of this firm was, as usual, in charge of Dr. P. Caspers. Kryofine had good company in the exhibit—the company having added several products to their list. Among the more important of these are menthoxol and camphoroxol (composed of hydrogen dioxid, and camphor and menthol respectively); bisol, a soluble bismuth preparation, and sapodermin, a mercurial soap. The exhibit was a center of interest and made many friends for Bischoff & Co.

BLEES-MOORE INSTRUMENT CO.

Electric fans made the booths of this St. Louis house comfortable for their many friends and customers. Dr. J. W. Moore, secretary and treasurer of the firm, was in charge, assisted by F. L. Harley. Among the new instruments displayed was one for catheterizing the male ureters, devised by Dr. Witherspoon. Dr. Moore has been in the instrument business in St. Louis for many years and is well known. Orders should be addressed direct to the Blees-Moore Co.

BOVININE CO.

The Bovinine Co. was represented by M. S. Smith of Philadelphia. Their exhibit was unique, and seemed to be a great center of attraction for large numbers of physicians. The growing popularity of their product is well attested by the interest manifested by the visiting physicians, and Mr. Smith was kept busy furnishing samples and literature, with which he seemed to be well supplied.

BUCKEYE BUGGY CO.

This Columbus firm showed a very fine pneumatic-tire, wire-wheel buggy. Sufficient space to show a regular physician's vehicle could not be secured in the exhibit hall, but quite a large number of such vehicles were on inspection in the firm's repository. In addition to a large line of physicians' vehicles they build a very complete line of pleasure vehicles. Their 98-page catalogue will be mailed on application.

BUREAU OF THE MEDICAL PRESS.

This bureau, conducted by Charles Wood Fassett, occupied a prominent position in the corridor of the State House. Following is a list of the journals represented:

JOURNAL; *Phila. Med. Jour.; N. Y. Med. Jour.; St. Paul Med. Jour.; Denver Medical Times: Medical Council; Med. and Surgical Monitor; Western Clinical Recorder; Medical Summary; Cleveland Med. Gaz.; Medical Libraries; Hot Springs Med. Jour.; Md. Med. Jour.; So. Med. Jour.; Kansas City Med. Index-Lancet; Chicago Clinic; N. Y. Post-Grad. Jour.; Women's Med. Jour.; Medical Herald; Medical Fortnightly; Am. Med. Journalist; Medical Mirror; Am. Med. Quar.*

CANTON SURGICAL AND DENTAL CHAIR CO.

This Canton, Ohio, firm exhibited their model of 1899, "Yale" surgical chair, and their new special "Yale" chair with the Martin posture for rectal surgery. The "Yale" surgical chair is heartily endorsed for its strength, beauty, finish, ease of manipulation and entirely noiseless action. Many physicians registered at the exhibition stand as endorsers of the "Yale." The exhibit was under the direction of T. B. Pratt, 224 Ninth Street, Brooklyn, N. Y., general eastern agent.

CHICAGO LABORATORY SUPPLY AND SCALE CO.

The exhibit of the Chicago Laboratory Supply and Scale Co., 39 W. Randolph St., Chicago, was in charge of Mr. Stoelting, Pres., and Mr. Williams, Sec. They had a very complete line of physiologic laboratory apparatus, such as is now a necessity to a well-equipped medical college. The audiometer manufactured by them and devised by Professor Seashore of Iowa attracted much attention. Their static X-ray apparatus was well constructed and gave excellent results. In sending for their catalogue, mention the JOURNAL.

CHICAGO MEDICAL BOOK COMPANY.

The Chicago Medical Book Company, 35 and 37 Randolph Street, Chicago, represented by F. W. Daniel, had the largest and most attractive display of medical books, carrying a full line of everything published. They also publish a number of books themselves, and import the foreign works. The energy and business-like ways of this company have resulted in building up a very large clientèle in the United States. The JOURNAL wishes them every success.

CLARK & ROBERTS.

This Indianapolis firm was represented by R. B. Roberts and G. O. Tucker, and their exhibit of aseptic hospital and physicians' surgical furniture attracted much attention. This firm claims that quality and finish constitute the two main factors which have gained for them their present reputation.

COLUMBUS PHARMACAL CO.

Few exhibits attracted more attention than that of the Columbus Aseptic Operating-table and Chair combined, manufactured by this firm. Like other hospital furniture made by this company, it is beautifully finished in white baked enamel, which is warranted never to crack, and is sold at only $25. They also exhibited a hospital table, all steel, white enamel, that "gives more positions and can be cleaned quicker after an operation than any table on the market."

ELECTRO-SURGICAL INSTRUMENT CO.

This Rochester (N. Y.) firm's display of electrically lighted instruments was attractive, and the Valentine urethroscope called forth much favorable discussion. This company manufactures a large line of illuminating instruments, nose, throat, ear, vaginal, rectal, etc., and will be pleased to send catalogue to members of the medical profession. The urethroscope was the subject of a paper read by Dr. Valentine before a Section meeting of the AMERICAN MEDICAL ASSOCIATION. Practical demonstrations were also made in several of the hospitals.

ELECTRO-THERAPEUTIC MFG. CO.

This Indianapolis firm, represented by Ed. C. Jerman, had in operation several batteries, of elegant design and superior workmanship, one of the most unique of which was their combined cabinet. In this machine they have very attractively combined, in the same case, the galvanic, the static, the faradic, the cautery and the diagnostic currents. This machine attracted a great deal of attention on account of its neatness and the ease with which it was operated.

ELGIN MILKINE CO.

The exhibit of the Elgin Milkine Co. attracted special attention, their goods appearing for the first

time under their new label, which is attractive and unique. The milkine booth was one of the much-sought displays, the food being served ice-cold from a huge punch-bowl. The large number of "repeaters" noticed there at different times attested the palatability and popularity of milkine as a refreshing drink.

ESKAY'S ALBUMENIZED FOOD.

The cereals and egg albumen used in the manufacture of Eskay's Albumenized Food were displayed in glass jars for the information of physicians, the various stages of preparation being shown. It is the only food on the market containing egg albumen, and it meets the requirements of the most desperate and delicate cases. Eskay's Food is highly nutritious and easily assimilated, and has the commendation of all physicians who have tested its superior merits.

FISCHER CHEMICAL IMPORTING CO.

A handsome display was made by this company, at the Great Southern Hotel, with Victor Koechl & Company. As is well known, they are importers of and dealers in C. P. chemicals, and also a most varied and extensive line of filled capsules, pearls and other pharmaceutic products and specialties. In this day of elegant pharmacy it is a pleasure to note the very attractive manner in which medicaments of all kinds are offered to the profession.

FLEXNER CHEMICAL CO.

Represented by their manager, I. Flexner, this firm was much in evidence with its pharmaceutic preparation, Elixir Urotropin Comp. (Flexner), which "combines, in a permanent form, in each teaspoonful, the following: urotropin, grs. v, combined with lithium salicylate, so prepared as to afford a permanent and palatable remedy in rheumatism, gout, etc."

FRIES BROS.

In addition to their usual line, this house is devoting considerable attention to cocaine-kelene, a new local anesthetic, and guaiacolated organo serum. This latter product, Dr. Hague, in charge, told us, will mark a new epoch in the treatment of tuberculosis and all asthenic diseases." It is given by rectal injection, and "in the hands of a few experimentalists has increased the weight rapidly and regularly in hopeless cases." Reports will be published soon. M. F. Freidenrich assisted Dr. Hague.

R. W. GARDNER.

R. W. Gardner of New York exhibited his well-known syrup of Hydriodic Acid, originally introduced by him in 1878—"the first permanent syrup of Hydriodic Acid ever made"—and syrups of chemically pure hypophosphites (single salts). Mr. Gardner is introducing two new preparations: 1, Hypo-Quinidol (Gardner), a new, soluble, non-toxic quinin—a combination of quinin and oxidizable phosphorus, entirely non-irritant and more effective than the sulphate—producing no cinchonism or toxic action on the blood"; 2, syrup of Hyphosphite Ammonium, chemically pure, an expectorant, "relieving laryngeal cough in from five to ten minutes."

GENEVA OPTICAL CO.

This Chicago house was represented by Earl J. Brown, who exhibited their new retinoscope, which was of especial interest to members of the Section o Ophthalmology. We are informed that the instru ment received nothing but words of praise from th foremost students and successful skiascopists i attendance at the meeting, and that it will surely be great assistance to those wishing to work out thei cases of refraction quickly and accurately with th least inconvenience to themselves and their patients

GLOBE MFG. CO.

This exhibit was in charge of W. L. Root, and re ceived the attention of a large number of physician who noted the many improvements in nebulizers an air-compressing apparatus. By anticipating the re quirements of the medical profession this compan has earned for their goods an enviable reputation Their new hydraulic air-compressor, air-pressure reg ulator, cut-off, and combined nebulizers and ai receivers attracted much attention.

HALL & RUECKEL.

The exhibit of this New York firm, proprietors o the well-known sozodont preparations, attracted muc attention. It was a dainty conception, consisting o a pink canopy and back-ground, the latter relieved b a large mirror surmounting a bank of palms while th various sized packages of sozodont were handsomel disposed in a monumental pile on a table in the cen ter. The exhibit was in charge of T. O. Chisholm.

F. A. HARDY & CO.

These wholesale opticians of Chicago, having als branches at Denver and Paris, had on exhibition a new model of the justly celebrated Hardy ophthalmometer This new model, with its many improvements, i bound to make the Hardy instrument more popula than ever. They also had a new instrument of inter est to ophthalmologists, i.e. Dr. Savage's phorometer The exhibit was in charge of C. H. Pixley.

THE G. F. HARVEY CO.

These manufacturing chemists of Saratoga Springs N. Y., were located in the north end of the Exhibi Hall, where the products of their laboratory were dis played in a manner to attract the attention of thei many friends and patrons. Among their specialties Vitogen and Vitogen gauze, Antiseptine ointment and Kinsel's tasteless cod-liver oil were evident, as these preparations are "recognized to be superior to any similar preparations." The firm was represented by Salesmen Bowen, Euans and Baker.

HORLICK'S FOOD CO.

This company showed a painting of their Racine factories, laboratories, granaries, malthouses and dairies, and of the now famous Horlick's malted milk maid. The products demonstrated included Horlick's malted milk, Horlick's food and Horlick's diastoid. As usual, this house made a great hit with their celebrated malted milk, ice-cream and a number of liquid forms of their peerless products. The exhibit was in charge of Dr. J. A. Denkinger, assisted by Mr. (not Sir) Joseph Litster and Dr. A. W. Hobart.

THE IMPERIAL GRANUM CO.

The space occupied by this firm was artistically draped in pink and white, which, combined with the beautiful gilt packages of this well-known food, proved a decided hit, and the booth was continually sur-

rounded by members of the profession and their friends.

IRON MILK CO.

The exhibit of these Baltimore manufacturers of aromatin (Dolle) or aromatic iron milk, was in charge of Thos. H. Wildsmith of Baltimore, who very successfully demonstrated and explained the various points of advantage this chalybeate possesses. Physicians from various points heartily indorse its use. Its admirers feel free to say this new form of iron therapy will soon stand in the front rank with the physicians of America, as "it does in Germany."

KNY-SCHEERER CO., NEW YORK.

The merits of their unbreakable, bevel-edge lock on all forceps, scissors, etc., were set forth by this exhibit, and prominent among the most recent inventions may be mentioned Tuffier's Angiotribe, Bottini's incisor, combined illuminating, irrigating and ureteral cystoscopes. In hospital supplies they showed their "perfection" sterilizers for surgical dressings. With this apparatus sterilization is guaranteed under any and all conditions. Their water sterilizers of seamless, drawn-down cylinders, instrument sterilizers and formaldehyde generators for disinfection, were a part of the exhibit.

VICTOR KOECHL & CO.

This exhibit was at the Great Southern Hotel. "Nirvanin," which is "useful in all cases where it has been the custom of physicians and surgeons to use cocain," we are informed, while new to American physicians, has been in use abroad for some time, and it is said to have all the anesthetic effects of cocain without the unpleasant after-effects. Diphtheria antitoxin, in crystal form, was also shown in hermetically sealed vials, which can be conveniently carried, dissolved in thirty drops of sterilized water and used hypodermically at once.

KEASBEY & MATTISON CO.

Another of the interesting exhibits at the recent meeting at Columbus was that of the Keasbey & Mattison Co. The high grade of their goods and the exceptionally instructive papers they have contributed to the meager literature on the uric acid diathesis, have made their line of granular effervescing salts justly popular. Their fine display was in charge of Dr. J. W. Hunter of Texas and Dr. A. B. Conklin of Michigan.

KRESS & OWEN.

The products of this New York house were attractively displayed, and over 1200 physicians received or had a supply sent them. Glyco-thymolin (Kress) has grown rapidly in favor with physicians for the treatment of catarrhal conditions of mucous membranes. "They obtain results." In reference to the Birmingham douche, a prominent physician said: "It is a clever little instrument for irrigating the nasal cavities—safe, cheap and effectual." Any physician who failed to obtain a supply at the meeting can do so by writing to the Kress & Owen Co.

LEA BROTHERS & CO.

Lea Brothers & Co. have been leading publishers of medical books for 114 years, and "to this firm the physician is indebted for nearly every book which has become classic, from Gray's 'Anatomy' up to the magnificent specimen of modern book-making just published, viz., Gerrish's 'Anatomy'." The exhibit was in charge of Dr. McLaury, the manager of the text-book department, and Mr. Bailey, from the main branch of the firm, Philadelphia.

THE J. ELLWOOD LEE CO.

The firm's attractive exhibit was in charge of J. Carl De La Cour. For a background were arranged the various products of their laboratories, including absorbent cotton, antiseptic dressings and surgeons' adhesive plaster, while there was also a very complete display of ligatures, put up in the various aseptic containers of this firm. A trained nurse, in uniform, explained the advantages of the different packages, and added much to the general attractiveness of the exhibit.

J. B. LIPPINCOTT CO.

The J. B. Lippincott Company of Philadelphia, was represented by C. D. Scott, Columbus, Ohio, their Ohio State agent. The firm exhibited a very creditable collection of medical books.

LONDONDERRY LITHIA SPRING WATER CO.

Served at all Section dinners, on all special trains, at receptions and entertainments, Londonderry seemed to be everywhere. A vote of thanks was extended to the company by the attending physicians, who thoroughly appreciated the progressiveness and generosity of this enterprising concern. Chas. J. Branch of Philadelphia and Chas. M. Phelps of Chicago, in attendance as representatives of the company, inform us that nearly a car of Londonderry was distributed during the four days of this meeting.

McCOY, HOWE CO.

McCoy, Howe Co., Indianapolis, occupying space near the north end of the exhibit hall, interested a goodly circle of M.D's. Their new specialties: Aseptic Sphenoids and Boro-Calenduline were highly recommended by physicians who have given them a test in their practice, and Mr. McCoy and Dr. Warner were kept busy supplying samples and explaining the action and results of each.

A. McDANNOLD.

Though this firm has done but little advertising, we expect their "ad" to appear soon in our pages. Its rapidly increasing business indicates that the firm furnishes only first-class goods. Geo. E. Briggs, manager of the Pittsburg office, had charge of the exhibit. Mr. Briggs has sold in the last three years 127 McDannold chairs in Allegheny County alone. Concerning chairs and cabinets made by this house, address the manufacturer, A. McDannold, 1416 Sarah Street, St. Louis.

McKESSON & ROBBINS.

McKesson & Robbins of New York exhibited three new preparations: guaiaquin, for the treatment of malarial fevers and anemia; pyrozone absorbing tablets, which are small oblong tablets intended to be used in conjunction with their well-known pyrozone solution, for cleansing the tongue, teeth and mouth, thereby preventing decay of the teeth; and compound stearate of zinc, which is supplied either plain or medicated, for use in skin diseases or in diseases of the nose and throat. The exhibit was in charge of W. J. Evans and A. V. Hennicke.

MALT-DIASTASE CO.

At this exhibit many physicians examined Maltzyme, which is a concentrated yet limpid product, being quite different in appearance and consistency from the older preparations of its class. The diastasic power of Maltzyme is said to be greater than that of any other preparation, and analyses proving that such is the case were shown from Profs. Haines of Chicago, Sennett of Milwaukee, Baird of Boston, Spenzer of Cleveland, and Tucker of Albany. The company was represented by Dr. P. P. Mauk, B. J. McDermott, and P. W. Fischer.

THE MALTINE CO.

Maltine with creosote, the new product of this house, was shown, and the principle of administering creosote in concentrated cereal food—diastasic food—appeared sound. The steps in transforming raw grain into maltine were also shown, and stress laid on removal of the water of solution until the largest residue of pure nutrient is left. The exhibit showed the grain in the sheaf, the foreign bale of coca leaves, the chemic apparatus for demonstrating diastase, and the finished product.

MELLIER DRUG COMPANY.

Proprietors of the tongaline preparations and of ponca compound were represented by Albin and K. D. Mellier. The most interesting feature of the exhibit was the handsome photo-engraving of the first meeting of the Medical Society of London, 1773, 500 copies of which were distributed among the physicians in attendance. Those who were not so fortunate as to secure one of these pictures can obtain one by sending their address to the Mellier Drug Company, St. Louis.

MELLIN'S FOOD CO.

Mellin's Food Co. of Boston was represented by T. J. Delano, Dr. A. D. Smith, and Boyd Thomas. The little formula booklet giving the various formulas for the home modification of fresh cow's milk attracted the favorable attention of the delegates and ladies accompanying them, at the meeting. These little booklets, sent free on request, show the different mixtures of Mellin's food that may be made for infants of different ages and conditions. They also aim to show that this food is a true modifier of cow's milk.

WM. S. MERRELL CHEMICAL CO.

This Cincinnati house, represented by Messrs. Henry Copleston, Lee Wiltsee and D. M. Chambliss, displayed their green-plant fluid extracts, salicylic acid, and other derivatives of oil of wintergreen; Hydrastis preparations; besides specimens of Ferro-salicylata, cordial Pas-carnata, Maizirena and other well-known specialties of their manufacture. The new antiseptic, iodozen, a product of methyl salicylate and iodin, has a pleasant odor, is in the form of a white powder, is non-irritant and devoid of toxic effects when used externally.

THE MILLER RUBBER MFG. CO.

That nearly one thousand physicians registered at this exhibit during the meeting, with only one representative in attendance, shows the deep interest the physician is taking in Standard Seamless Rubber Gloves and Standard Seamless Tissue Finger-Cots. Dr. Merker, representing this Akron, Ohio, firm, was kept busy answering questions and fitting gloves, besides showing up the Murphy Scrotal Bag, Pennington Rectal Tampon, Penrose's Gauze Cover, Crandall's Gonorrhea Pouch, and other specialties. The new Obstetrical Glove attracted much attention.

JOHN T. MILLIKEN & CO.

Another of the popular displays was that of John T. Milliken & Co. of St. Louis, with the following specialties: Liq. pasteurine; Liq. Antodyne; Eukratol, the new antipyretic, also the Dry Diphtheria Antitoxin, Antistreptococcus and Antiphthisic serum. The souvenir bust of Pasteur, was in great demand on the part of physicians.

THE H. K. MULFORD CO.

Beside their more familiar pharmaceutic preparations this firm showed many new products of great interest to members of the ASSOCIATION at the present time when so much attention is given to the study of serum therapy. There was especial interest in the newest product of their laboratories, a serum for pneumonia. The production of diphtheria antitoxin and glycerinized vaccin lymph were also fully shown. The exhibit was in charge of Dr. A. E. Jacobs and H. J. Mayers.

OAKLAND CHEMICAL CO.

The motto, "The kind that keeps," is now so associated with the hydrogen dioxid of this firm that it hardly needs any other name. Their improved oxygen bottle is meeting with hearty endorsement; and the convincing demonstrations left no room for doubt that at last the physician could have at small cost, a simple but complete oxygen apparatus, not only for his own use but to put into the hands of his patients.

PARKE, DAVIS & CO.

This exhibit of physiologically tested drugs, emphasizes the necessity for standardization of drug products. A complete display of biologic products was shown, consisting of antidiphtheritic serum, aseptic vaccin, cultures of disease germs, culture-tubes, microscopic slides, etc. Hypodermic medication was made prominent by their well-known aseptic syringes, aseptic ergot, and soluble hypodermatic tablets. Another feature was the East India sandalwood in logs, as it is imported by this house, and from which they distil oil of santal for use in their various products. They also entertained handsomely at the Southern Hotel.

THE CHARLES H. PHILLIPS CHEMICAL CO.

This New York house celebrates, this year, its fiftieth anniversary as a successful manufacturer of high-class pharmaceuticals. A half century of professional scrutiny and support is conclusive evidence of the esteem in which its products are held. Phillips' exhibit was most popular and among the best attended, and Drs. Scott, Beckwith and Klophel, who were looking after the company's interests, were kept busy meeting all the old friends and making hosts of new ones.

PNEUMOCHEMIC CO.

This firm occupied a large space at the north end of the hall, and made a very creditable display of vaporizing and condensed-air apparatus. Dr. Robertson, the inventor of the multiple comminuter, was in charge. This comminuter was shown in the latest

improved forms of the most artistic design, and in all sizes, with from one to nine globes. Another feature, which attracted much attention, was a new air-compressor, with double cylinders, operated by a fly-wheel and pedals, on the bicycle principle.

ROBINSON THERMAL BATH CO., TOLEDO, OHIO.

This company is "the originator of the bath cabinet," and furnishes double wall cabinet in wood or steel frame at from $5.00 to $12.50. They also display a leg and arm cabinet, face steamers, electric batteries, medicine cases, massage rollers, specially prepared burning fluid for heaters, liquid sulphur, cocoa-butter, skin food, etc.

ROCHESTER FLUOROMETER CO.

The Dennis fluorometer exhibited is a necessary surgical adjunct of the X-rays, used for locating foreign objects in the human anatomy, such as bullets, needles, calculi, etc.; also to correctly diagnose fractures, dislocations, abnormal growths of bone. It provides an accurate basis of measurement of value to physicians in giving expert testimony. It was adopted by the U.S. Government and used in the late war at the Philippines. C. W. Puffer, the general agent, was in charge.

W. B. SAUNDERS.

W. B. Saunders of Philadelphia was at the meeting in person, and was represented by J. P. Hobart and J. D. McLeod of Cincinnati. The well-known medical works of this house are standard, and Mr. Saunders may well feel gratified with the success that has attended the publications issued from his house, among which we can but mention the American Text-book Series, Saunders' Hand Atlases, Manuals, Question Compends, etc. Lists and prices will be mailed on request.

SCHIEFFELIN & CO.

Their well-known line of soluble pills and granules made this firm's exhibit present an attractive appearance. Aside from these, their line of medicated soaps, comprising some thirty different formulæ attracted considerable attention, especially among dermatologists; also cocaine discoids free from excipient, for making extemporaneous solutions of cocaine of definite strengths. Bensolyptus, an alkaline antiseptic and prophylactic is also worthy of special mention. The exhibit was in charge of E. C. Fowell and Raymond Foster.

SCOTT & BOWNE.

The booth of this house, constructed of 3000 bottles of their emulsion of cod-liver oil, was indeed attractive. In individual glass capsules about six feet in height, they exhibited the ingredients composing Scott's emulsion, viz.: cod-liver oil, hypophosphites of both lime and soda, and glycerin, in their simple state; and in another part of their booth was exhibited the finished product, hundreds of bottles of which were given out gratuitously to physicians. The representatives were P. H. Fowler, R. A. Brown, H. E. Charles and D. F. N. Wight.

SHARP & DOHME.

Pills, tablets, fluid extracts and elixirs, with the firm's specialties, ergotole, lapactic pills, lithiated sorghum comp. and mel-maroba, were shown. The S. & D. aseptic syringe was also shown with this exhibit, and those using this instrument especially recommend it. Souvenir cases of S. &. D. hypodermic tablets were given away to the profession. The well-known solubility of these hypodermic tablets and the convenience of the containing case caused these samples to be much sought after. Mr. J. F. Christian, Dr. Winchester and other representatives were in charge.

SHARP & SMITH.

Sharp & Smith of Chicago had a fine line of instruments on exhibition, which attracted the attention of all physicians. The Harris instrument for collecting the urine from both kidneys separately met with great favor. The exhibit was in charge of Zan Cotter, assisted by Mr. Crouther.

W. J. SHIELDS & CO.

This New Wilmington (Pa.) and Philadelphia firm was represented by Professor Shields, who exhibited two types of the volt-graduator, a portable instrument and a wall cabinet, with photographs of other forms of the apparatus, including a cabinet mounted on rubber-tired wheels. These instruments give every possible form of current when attached to the electric-light current, without the use of cells. They measure both the volts and milliampéres. They are very handsomely finished and "electrically and mechanically perfect."

TILDEN CO.

This New Lebanon, N. Y., firm, "one of the oldest and best known pharmaceutic houses in existence," was represented by the well-known and very popular Billy Boyce. They held the attention of the physicians on their hydrocyanate of iron, and much interest was manifested in this preparation by the members of the profession in attendance.

TROMMER EXTRACT OF MALT CO.

All the medical profession were pleased, on entering the exhibit hall, with the space representing the Trommer Extract of Malt Co. of Fremont, Ohio. Being familiar with this preparation, which has been on exhibit for twenty-five years, the doctors enjoy a hand-shake with their representative, Dr. Paul Plessner, who never fails to attend a medical convention. Paul Hirth assisted with the exhibit.

R. V. WAGNER & CO.

exhibited one of their 4-plate Mica Static Machines, which attracted a great deal of attention, as the use of Mica revolving plates is a new departure in Static machine construction. Their machine, when run at a high rate of speed, has a large generating capacity, equal to any of the larger machines on exhibition. The hot, damp weather seemed to have no effect upon it and it impressed every one favorably.

WAITE & BARTLETT MFG. CO.

A Ranney-Wimshurst-Holtz static machine was exhibited by Dr. H. E. Waite, president of this New York company. Waite & Bartlett have been supplying the American profession with these machines for more than fifteen years. Improvement has been constant. Dr. Waite was constantly surrounded by friends and interested investigators, and he had no difficulty in convincing all of the superior workmanship, exceptional beauty, and above all, the absolute

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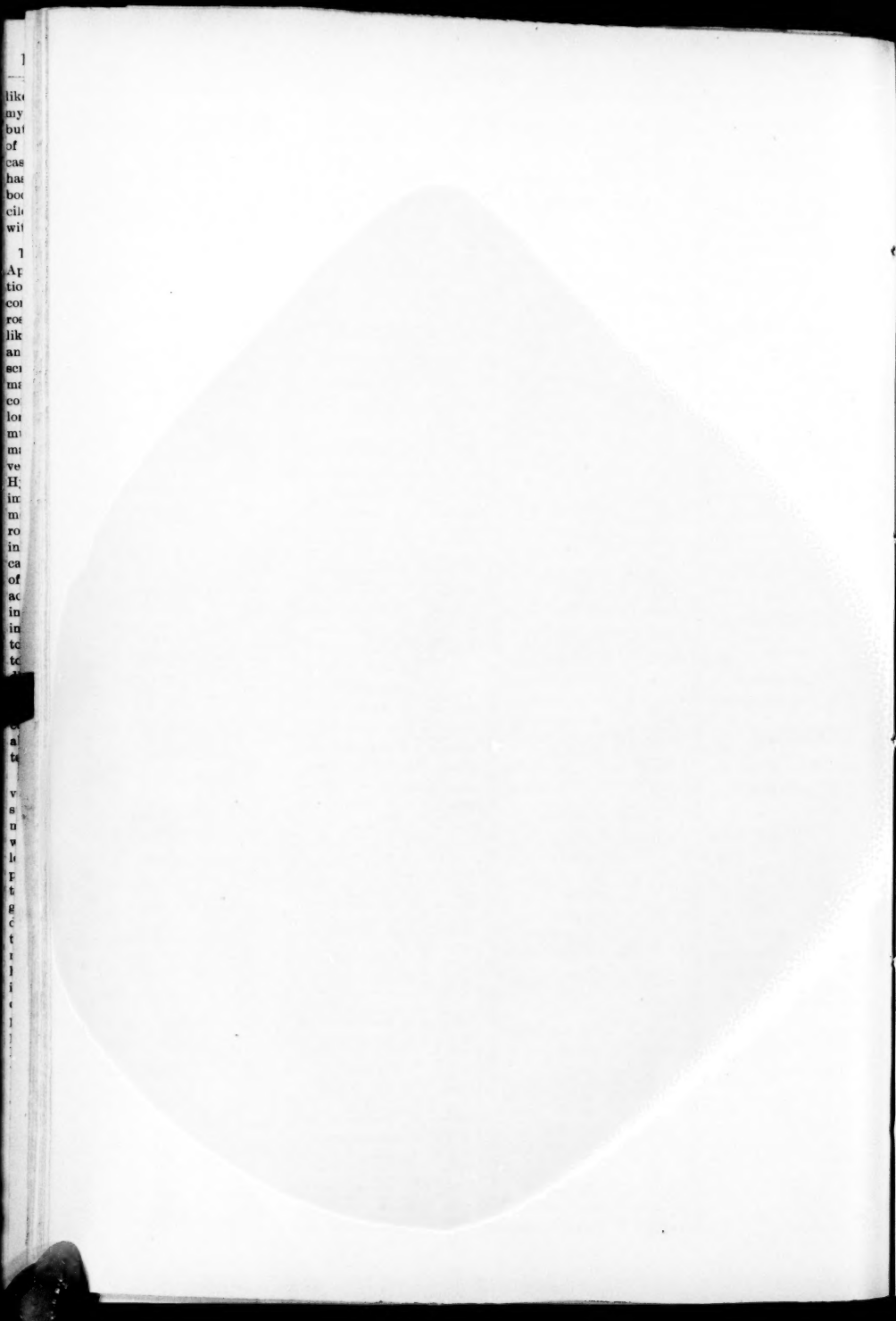

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